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Supreme Court of the United States

BRIEF FOR PETITIONER POWER REACTOR
DEVELOPMENT COMPANY

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INDEX

	Page
Opinions Below	2
Jurisdiction	2
Questions Presented	3
Statutes and Regulations Involved	4
Statement	4
The Nature of the Project	4
Characteristics of Power Reactors and the Theoretical or Potential Hazards Associated with Them	6
History of the Proceeding	9
The Decision of the Commission	12
The Decision of the Court of Appeals	16
Summary of Argument	19
Argument	25
I. The Commission's Findings of Reasonable Assur- ance that a Reactor of the General Type Proposed Can Be Safely Operated at the Proposed Site Were Sufficient To Support Issuance of a Provi- sional Construction Permit Under the Statute and Regulations	25
A. To Effectuate its Purpose of Encouraging Widespread Participation in the Develop- ment and Use of Atomic Energy for Peaceful Purposes, the Act Prescribes Priority for Advanced Developmental Re- actor Projects and Gives the Commission Broad Authority To Implement its Gen- eral Licensing Provisions	26
B. The Commission's Provisional Construction Permit Regulations Are Consistent with Applicable Statutory Provisions and Re- sult from the Necessary Accommodation of Nuclear Technology to the Basic Objec- tives of the Act	30
C. The Commission's Findings Here Satisfied the Statute and Regulations and Were Not Ambiguous	34

	Page
D. Nothing in the Legislative History Indicates a Purpose to Deprive the Commission of Authority to Issue Construction Permits on a Provisional Basis.....	37
E. The Commission's Contemporary Construction and Consistent Practice and the Acquiescence of Congress Therein Are Entitled to Controlling Weight.....	48
II. The Holding that the Commission may not Approve any Reactor Site near Populated Centers without Finding "Compelling Reasons" Therefor Is not Required by any Provision of the Act and Is Inconsistent with Expressed Congressional Intent	55
A. Both Statutory Language and Legislative History Show Congressional Intent to Authorize Commission Approval of Reactor Locations Comparable to That Here.....	57
B. Subsequent Congressional Action Indicates Approval of the Commission's Reactor Location Policies	62
C. The Commission's Uncontested Finding that the Site here Is Suitable Is Controlling....	66
Conclusion	69
Appendix:	
I. Pertinent Provisions of Statutes.....	70
II. Pertinent Provisions of Regulations.....	80

CITATIONS

Cases:

<i>Addison v. Holly Hill Fruit Products, Inc.</i> , 322 U.S. 607....	48
<i>American Trucking Associations, Inc. v. United States</i> , 344 U.S. 298	48
<i>Brooks v. Dewar</i> , 313 U.S. 354.....	51
<i>Community Broadcasting Co. v. Federal Communications Commission</i> , 274 F.2d 753 (App. D.C. 1960).....	44
<i>Federal Communications Commission v. National Broadcasting Co.</i> , 319 U.S. 239.....	19
<i>Federal Power Commission v. Colorado Interstate Gas Co.</i> , 348 U.S. 492.....	67

Cases—Continued

	Page
<i>Ivnhoe Irrigation District v. McCracken</i> , 357 U.S. 275.....	51
<i>Lee v. Madigan</i> , 358 U.S. 228.....	37
<i>National Labor Relations Board v. Gullett Gin Co.</i> , 340 U.S. 361.....	51
<i>Norwegian Nitrogen Co. v. United States</i> , 288 U.S. 294.....	48
<i>Panama Canal Co. v. Grace Line, Inc.</i> , 356 U.S. 309.....	49
<i>United States v. American Trucking Associations, Inc.</i> , 310 U.S. 534.....	22, 48
<i>United States v. Bergh</i> , 352 U.S. 40.....	51
<i>United States v. Shreveport Grain & Elevator Co.</i> , 287 U.S. 77.....	51
<i>United States v. Storer Broadcasting Co.</i> , 351 U.S. 192.....	19
<i>United States v. Tucker Truck Lines, Inc.</i> , 344 U.S. 33.....	67

Statutes and Regulations:

Administrative Procedure Act, § 10, 60 Stat. 243, 5 U.S.C. § 1009.....	16, 19
Atomic Energy Act of 1946, § 15(b), 60 Stat. 772.....	49, 59
Atomic Energy Act of 1954, as amended, 68 Stat. 919, 42 U.S.C. §§ 2011 <i>et seq.</i> :	
§ 1.....	26
§ 3 a.....	26
§ 3 d.....	20
§ 51.....	49
§ 53 f.....	44
§ 58.....	49
§ 61.....	49
§ 102.....	27
§ 103.....	27, 28, 41, 42, 44, 50, 54
§ 104.....	28
§ 104 b.....	9, 20, 28, 29, 31, 48, 50, 62
§ 104 d.....	29, 34
§ 123 c.....	49
§ 123 d.....	49
§ 161 b.....	30, 48
§ 161 i.....	12, 30, 48, 60
§ 161 p.....	20, 30, 48
§ 164.....	49
§ 170 b.....	66
§ 170 f.....	66
§ 170 i.....	49

Statutes and Regulations—Continued

	Page
§ 181	43
§ 182	20, 33, 39, 41, 42, 43, 44, 45, 46, 65
§ 182 a	12, 1, 20, 21, 28, 29, 30, 33, 34, 46, 48
§ 182 b	15, 29, 42, 43, 44, 45, 46, 50
§ 182 c	29, 42, 43, 44, 46
§ 182 d	29, 46
§ 185	12, 16, 20, 21, 29, 33, 39, 42, 43, 45, 46, 47
§ 189	39, 40, 42, 43, 44, 45, 46, 65
§ 189 a	15, 43, 50
§ 189 b	16
§ 201-07	49, 63

Judicial Review Act of Dec. 29, 1950, as amended, 64 Stat.

1129, 5 U.S.C. §§ 1031 *et seq.*

28 U.S.C. § 1254 (1)

Atomic Energy Commission Regulations, 10 CFR Chap. 1:

§ 2.102	11
§ 50.34	4, 12
§ 50.35	3, 4, 10, 12, 13, 14, 16, 17, 19, 20, 21, 26, 32, 33, 34, 36, 37, 47, 51, 54

Legislative Materials:

100 Cong. Rec.:

10685-86, III Legis. Hist. 3174-75	43
10956-58, III Legis. Hist. 2846-48	45, 46
11161, III Legis. Hist. 2879	27
11374, III Legis. Hist. 2461	60
11404, III Legis. Hist. 3475	43
11420, III Legis. Hist. 3479	43, 44
11558-60, III Legis. Hist. 3526-28	45
11747-49, III Legis. Hist. 2955-57	45, 46
11900, III Legis. Hist. 3660	61
11920, III Legis. Hist. 3681	61
11973, III Legis. Hist. 3904	27
12014, III Legis. Hist. 3759-60	38, 39, 43, 45
12024-25, III Legis. Hist. 2962-63	41
12242, III Legis. Hist. 3877	39, 45
14870, III Legis. Hist. 3723	27

Legislative Materials—Continued

Page

Hearings Before the Joint Committee on Atomic Energy on Atomic Power Development and Private Enterprise, 83d Cong., 1st Sess. (1953)	7, 8, 27, 60
Hearings Before the Joint Committee on Atomic Energy on S. 3323 and H. R. 8862, to Amend the Atomic Energy Act of 1946, 83d Cong., 2d Sess. (1954)	27, 39, 60
Hearings Before the Joint Committee on Atomic Energy on Development, Growth and State of Atomic Energy Industry, 84th Cong., 2d Sess. (1956)	50
Hearings Before Joint Committee on Atomic Energy on Governmental Indemnity for Private Licensees and AEC Contractors Against Reactor Hazards, 84th Cong., 2d Sess. (1956)	56, 63
Hearings Before the Joint Committee on Atomic Energy on Governmental Indemnity and Reactor Safety, 85th Cong., 1st Sess. (1957)	50, 63
Hearings Before the Subcommittee on Legislation of the Joint Committee on Atomic Energy on Authorizing Legislation for AEC's Fiscal Year 1958 Construction Budget, 85th Cong., 1st Sess. (1957)	63
Hearings Before the Joint Committee on Atomic Energy on Operation of AEC Indemnity Act, 85th Cong., 2d Sess. (1958)	50
Hearings Before the Subcommittee on Legislation of the Joint Committee on Atomic Energy on Authorizing Legislation for AEC's Fiscal Year 1959, 85th Cong., 2d Sess. (1958)	63
Hearings Before the Subcommittee on Legislation of the Joint Committee on Atomic Energy on Review of Proposals under Power Demonstration Program, 85th Cong., 2d Sess. (1958)	63
Hearings Before the Joint Committee on Atomic Energy on Development, Growth and State of Atomic Energy Industry, 85th Cong., 2d Sess. (1958)	50
Hearings Before the Joint Committee on Atomic Energy on Development, Growth and State of the Atomic Energy Industry, 86th Cong., 2d Sess. (1960)	50

Legislative Materials—Continued

Page

Legislative History of the Atomic Energy Act of 1954 (U.S. Atomic Energy Comm., GPO, 1955):

Vol. I	41, 42, 43, 45, 47, 61
Vol. II	27, 39, 60, 61
Vol. III	38, 39, 41, 43, 45, 46, 60, 61
H. R. 9757, S. 3690, 83d Cong., 2d Sess. (1954), I <i>Legis. Hist.</i> 625-29, 729-33	45
H. R. Rep. No. 2181, 83d Cong., 2d Sess. (1954), I- <i>Legis.</i> <i>Hist.</i> 1101-34	41
H. R. Rep. No. 2531, 84th Cong., 2d Sess. (1956)	65
Sen. Rep. No. 296, H. R. Rep. No. 435, 85th Cong., 1st Sess. (1957)	51, 66
Sen. Rep. No. 1699, H. R. Rep. No. 2181, 83d Cong., 2d Sess. (1954), I <i>Legis. Hist.</i> 751, 776, 999, 1024	47, 61
Sen. Rep. No. 2298, H. R. Rep. No. 2531, 84th Cong., 2d Sess. (1956)	65

Miscellaneous:

American Radiator and Standard Sanitary Corp., 25 Fed. Reg. 1968	54
<i>Atomic Energy Facts</i> (GPO, 1957)	7
<i>A Study of AEC Procedures and Organization in the Licens-</i> <i>ing of Reactor Facilities</i> (Comm. Print, 1957)	50
Cox, <i>Judge Learned Hand and the Interpretation of Statutes</i> , 60 Harv. L. Rev. 370 (1947)	47
Davis, <i>Administrative Law Treatise</i> , Vol. 4 (1958)	48
Frankfurter, <i>Some Reflections on the Reading of Statutes</i> , 47 Colum. L. Rev. 527 (1947)	47
<i>Major Activities in the Atomic Energy Programs, January-</i> <i>July 1954</i> (AEC, 1954)	61
Marks and Trowbridge, <i>Framework for Atomic Industry, A</i> <i>Commentary on the Atomic Energy Act of 1954</i> (B.N.A., 1955)	38, 39, 49
"Theoretical Possibilities and Consequences of Major Acci- dents in Large Nuclear Power Plants" ("Brookhaven Re- port"), R. 874-917	8, 9, 56, 57, 63

Supreme Court of the United States

OCTOBER TERM, 1960

No. 315

POWER REACTOR DEVELOPMENT COMPANY, *Petitioner*,

INTERNATIONAL UNION OF ELECTRICAL, RADIO AND MACHINE
WORKERS, AFL-CIO, *et al.*, *Respondents*

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT
OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

BRIEF FOR PETITIONER POWER REACTOR DEVELOPMENT COMPANY

This case is before the Court on writ of certiorari (364 U.S. 889) to review a judgment of the United States Court of Appeals for the District of Columbia Circuit of June 10, 1960 (4R. 969). A majority of a division of that court (Circuit Judges Edgerton and Bazelon, with Circuit Judge Burger dissenting) ordered to be set aside a unanimous decision and order of the Atomic Energy Commission which had continued in effect, subject to further proceedings, a provisional construction permit for a developmental power reactor being constructed by petitioner, Power Reactor Development Company (hereinafter called "PRDC"). Respondents did not urge that the findings of the Commission, made in accordance with its regulations and settled practice, were unsupported by the evidence, and they were accordingly accepted by the court below. The court held, however, that such findings were insufficient to satisfy the requirements of the Atomic Energy Act of 1954.

OPINIONS BELOW

The opinion of Circuit Judges Edgerton and Bazelon (R. 954) and the dissenting opinion of Circuit Judge Burger (R. 965) of the United States Court of Appeals for the District of Columbia Circuit are reported at 280 F.2d 645. The findings of fact and final opinion and decision of the Atomic Energy Commission are not reported. They are contained in the printed record at R. 630. The initial opinion and decision of the Commission are contained in the record at R. 607, 918.¹

JURISDICTION

The judgment of the United States Court of Appeals for the District of Columbia Circuit was entered June 10, 1960 (R. 969). Timely petitions for rehearing *en banc* by both the Government and PRDC were denied on July 25, 1960, Judges Miller and Bastian dissenting and Judges Washington and Burger not participating (R. 970-71). PRDC filed a petition for writ of certiorari on August 12, 1960 (No. 315), and the United States and the Atomic Energy Commission filed a petition for writ of certiorari on September 29, 1960 (No. 454). On November 14, 1960, this Court granted both writs of certiorari, limited to the first two questions presented in the petitions, and consolidated the

¹ Record citations herein ("R. —") are to the three volumes containing excerpts from the certified transcript of record before the Commission and the court below which have been printed pursuant to stipulation for the use of this Court. References to record pages are to those listed at the bottom of the pages of Volumes I and II of this printed record, and at the top of the pages of Volume III. Volumes I and II were initially printed as joint appendices for the use of the court below, and the black letter numbers at the top of the pages of these two volumes accordingly refer to folio pages of the unprinted record before the Commission.

The entire transcript of record before the Commission, as certified by its Secretary to the Clerk of the Court of Appeals, consists of some 7034 folio pages in 17 volumes, and has been filed with the Clerk of this Court. A detailed index to this transcript is contained in the first volume thereof.

cases for oral argument (R. 972, 973, 364 U.S. 889). The jurisdiction of this Court is invoked under 28 U.S.C. § 1254(1).

QUESTIONS PRESENTED

1. In accordance with its uniform practice, the Atomic Energy Commission issued to petitioner PRDC a "provisional" construction permit authorizing construction (but not start-up or operation) of a developmental nuclear reactor. The Commission's order modifying and continuing this provisional permit in effect after a hearing was supported by findings of fact provided for in Section 50.35 of its regulations that for such purpose there was reasonable assurance that a facility "of the general type proposed" could be constructed and operated at its location without undue risk to the health and safety of the public. On petition for review, the Court of Appeals for the District of Columbia Circuit held such findings insufficient to satisfy the requirements of the Atomic Energy Act of 1954. The first question presented is whether, as the court held, the Commission lacks authority under the Act to issue reactor construction permits on the basis of the findings called for by its regulation, and whether such regulation and the Commission's settled practice thereunder are accordingly invalid.

2. The Commission here made findings of fact that the site chosen was suitable for a reactor of the size and type proposed, subject to adequate demonstration that the particular reactor as completed could be safely operated, and these findings were not attacked as unsupported by the evidence. As an alternative ground of decision, however, the court below held such findings inadequate because it construed the Atomic Energy Act generally, in the absence of any specific statutory provision on the point, as requiring a further finding of "compelling reasons" for selection of a site for any power reactor located within a moderate distance (30 miles) of a substantial city. In this respect the location of the PRDC reactor is generally comparable to that of other power reactors heretofore authorized by the Commission. The second question presented is whether,

as the court held, the Commission is without power under the Act to authorize construction of nuclear reactors within such moderate distances of populated centers without finding "compelling reasons" therefor, and whether, indeed, as the decision below implies, no reasons can be sufficiently compelling, regardless of the technical safeguards provided, to justify location of such licensed reactors in any but remote areas.

STATUTES AND REGULATIONS INVOLVED

The pertinent provisions of the Atomic Energy Act of 1954, 68 Stat. 919, as amended, 42 U.S.C. 2011 *et seq.*, and of Sections 50.34 and 50.35 of the Atomic Energy Commission's regulations (10 CFR 50.34, 50.35), are set forth in the Appendix to this Brief (pp. 70-81).

STATEMENT

The Nature of the Project

PRDC is a non-profit membership corporation, organized under the laws of Michigan. It has 31 member companies; seven are industrial corporations,² 13 are operating public utility companies, and one is a service company representing four additional public utility operating companies.³ PRDC's corporate purpose is to do research and development work on nuclear electric power, and to make information acquired from such activity available not only

² Allis-Chalmers Mfg. Co.; The Babcock & Wilcox Co.; Burroughs Corp.; Combustion Engineering, Inc.; Fruehauf Trailer Co.; Holley Carburetor Co.; Westinghouse Electric Corp. (R. 722-23).

³ Central Hudson Gas & Electric Corp.; The Cincinnati Gas & Electric Co.; The Columbus and Southern Ohio Electric Co.; Consumers Power Co.; Delaware Power & Light Co.; The Detroit Edison Co.; Iowa-Illinois Gas and Electric Co.; Long Island Lighting Co.; Philadelphia Electric Co.; Potomac Electric Power Co.; Rochester Gas and Electric Corp.; The Toledo Edison Co.; Wisconsin Electric Power Co.; and Southern Services, Inc., representing The Southern Co. and its following four operating subsidiaries: Alabama Power Co.; Georgia Power Co.; Gulf Power Co.; Mississippi Power Co. (R. 722-23; Opinion, R. 681-82, n. 69).

to its members but also to the Atomic Energy Commission for the use of the public, and to all others who may desire such information. It is carrying out this purpose through the design and construction of a full scale developmental "fast neutron breeder reactor" at a large site located in a rural area in Monroe County, Michigan, about 30 miles southwest of Detroit. The entire project, including associated electric generating facilities being constructed by The Detroit Edison Company, is known as the Enrico Fermi Atomic Power Plant.

As a "developmental project" the proposed Enrico Fermi plant will not be, and is not intended to be, an economic or commercial success of economically competitive with conventional power plants. See AEC Opinion, R. 685-86. As the Commission found, the reactor is essentially "a research and development facility" (Finding 2, R. 701). The project's basic objective is to explore, by actual construction and eventual operation, the feasibility and cost of using this type of reactor for the central station generation of electric power. It is anticipated that the design, engineering and operating information thus obtained will be of utility in enabling second or third generations of such reactors to approach economically feasible power. In accordance with this concept, the member companies of PRDC have no capital investment as such in it. The financial contributions made by the member companies are treated by them as having been expended for research and development at the time they are put into the project and not as having been invested or capitalized. No return on or repayment of these contributions can be had, regardless of the outcome of the project.¹

¹PRDC's articles of incorporation provide specifically that no part of any net earnings may inure to the benefit of any member, individual or corporation and that its members may receive nothing even on dissolution, since in that case any remaining assets must be turned over to an organization or organizations operated exclusively for educational or scientific purposes (R. 723; R. 387-89).

Characteristics of Power Reactors and the Theoretical or Potential Hazards Associated with Them

Certain materials, including some forms of the element uranium, are "fissionable." This means that, when sufficiently bombarded by subatomic particles called "neutrons," their atoms split apart or "fission" into atoms of other lighter elements ("fission products"), and at the same time release great quantities of energy and additional neutrons. If these neutrons in turn are used to bombard other atoms of the fissionable material, the latter will then split up in the same way, releasing still more energy and further neutrons. This, considerably oversimplified, is the atomic chain reaction which is the source of all nuclear energy. A reactor is simply a device designed to facilitate, control and utilize this chain reaction.

As the Commission stated in its opinion, the PRDC reactor, like all other contemporary power reactors, is one in which the heat energy derived from the atomic fissions is removed by a circulating coolant in such a way as to generate steam. This steam operates a conventional turbine-generator which makes electric power (Opinion, R. 666-69). The extent to which the nuclear fissions take place, which in turn determines the rate at which energy is released, is dependent among other things on the flux or density of the neutrons in the reactor. The atomic chain reaction can be started, stopped and otherwise controlled by movable rods containing a material such as boron carbide which, when inserted into the reactor, absorbs neutrons and so reduces the fission activity and the heat or power being developed by the reactor. If the reactor is designed to use neutrons moving at or about their initial speed of some 8,000 to 10,000 miles per second, it is called a "fast-neutron" reactor; or, more briefly, a "fast" reactor.

⁵ If, however, the reactor employs a "moderator" such as graphite, water, or beryllium, which has the ability to slow down neutrons to a speed of about one mile per second without absorbing those neutrons, and if the reactor employs those relatively slow-

The PRDC reactor is to be a liquid-sodium-cooled "fast breeder" reactor capable of producing the heat energy required to operate electric generating facilities with a capacity of 100,000 kilowatts of electricity. It will use as its fuel or "fissionable material", uranium metal in which the uranium-235 isotope has been artificially concentrated and which is therefore called "enriched" uranium. The enriched "core" of the reactor, which produces most of the heat, is surrounded by a "blanket" of the more common non-fissionable uranium-238.

A unique and important feature of the basic design is that a relatively substantial amount of the uranium-238 in the reactor will, by absorption or "capture" of fast neutrons, be transformed in the course of operation to plutonium, a heavier man-made element not found in nature. This plutonium, like uranium-235, is itself a fissionable material, potentially capable of being used as a reactor fuel. The number of atoms of plutonium which will be so created in the normal operation of the reactor will exceed the number of atoms of uranium-235 which will be utilized or "burned up." This is the characteristic of the reactor

moving nuclear particles in the chain reaction, it is called a slow or "thermal" reactor. See Opinion, R. 668, n. 51.

See also general discussion of how a reactor works in testimony of Dr. Lawrence R. Hafstad, then director of AEC Reactor Division, in *Hearings Before the Joint Committee on Atomic Energy on Atomic Power Development and Private Enterprise*, 83d Cong., 1st Sess. (1953), pp. 13-22.

An isotope may be defined as "one of two or more species of the same element, having almost identical chemical properties but differing in atomic weight". *Atomic Energy Facts* (GPO, 1957), p. 157. Only about 0.7 per cent of the uranium found in nature consists of the fissionable isotope uranium-235; the rest is uranium-238, which is not readily fissionable under neutron bombardment and so is not usable as such as a reactor fuel.

The concentration of the uranium-235 isotope to form "enriched uranium" is a difficult and expensive process, at present performed only in Commission facilities. *Id.* at pp. 68-70.

which makes it a "breeder."⁷ The Commission here found that "demonstration of the economic practicability of breeding would increase by many times the available reserves of nuclear fuel by facilitating the conversion into plutonium and use as fuel the Uranium-238 isotope which comprises 99.3 per cent of the natural uranium" resources in the world (Finding 26, R. 709).

The general nature of the possible hazards associated with the operation of any type of large nuclear reactor is not disputed. There is no possibility of a blast or explosion comparable to that of an atomic bomb. The happening to be guarded against is rather the accidental release to the environment of the highly toxic radioactive "fission products" which result from the nuclear chain reaction and which are gradually accumulated in the fuel elements of the reactor; their quantity is primarily a function of the size or power of the particular reactor and the length of time for which it has operated without reloading of nuclear fuel (R. 739-42, 874-78, 901). If fully released to the environment, the fission products so built up in *any* reactor of substantial size could cause devastating damage (R. 71-73, 895-900). Both Congress in enacting the Atomic Energy Act of 1954⁸ and the Commission in administering it⁹ have shown that they are fully aware of the magnitude of this potential hazard and of the necessity for and availability of correspondingly complete means of protecting against it.

⁷ Dr. Hans A. Bethe, one of the world's leading nuclear physicists, stated in his testimony for PRDC in this proceeding that a breeder reactor can be likened to "a coal furnace which makes more coal than it uses up" (R. 737). Dr. Bethe's narrative testimony contains a more extensive but simple and lucid explanation of the basic principles of fast breeder reactors. See R. 735-39.

⁸ See p. 59 below and *Hearings Before the Joint Committee on Atomic Energy on Atomic Power Development and Private Enterprise*, 83d Cong., 1st Sess. (1953), pp. 32-34, 59-60.

⁹ See, e. g., AEC study on "Theoretical Possibilities and Consequences of Major Accidents in Large Nuclear Power Plants" (sometimes called the "Brookhaven Report"), R. 874-917.

The Commission has made it clear that it accordingly will not permit the operation of this or any other reactor comparably located until there has been a showing that it is beyond the realm of credible possibility for an accident to the reactor as designed, built and tested to "release significant quantities of fission products into the atmosphere" (R. 707-08; see also R. 634-35, 646-47, 649-51, 676).¹⁰ It should be emphasized that this ultimate and all-important safety question is not presented at this stage of the proceedings, since all that is authorized by the Commission's order here under review is construction, not operation of the reactor, and it is undisputed that construction alone presents no conceivable public hazard. Before the reactor can be operated at all there must be a further proceeding, including a *de novo* public hearing, on the question of whether operation of the reactor as finally designed and actually completed can be undertaken without undue risk to the public.

History of the Proceeding

On January 6, 1956, PRDC filed its application for license under Section 104 b of the Atomic Energy Act of 1954 for the construction and operation of its proposed nuclear reactor as a research and developmental project (R. 364).

¹⁰ The extreme lengths to which multiple layers of containment and other available protective measures are taken in order to render public injury incredible, and the extremely small probability of public injury from an accident to a reactor which is so protected, are indicated generally in Part I of the AEC "Brookhaven Report" (R. 879-86), and were summarized by the Joint Committee on Atomic Energy in its 1957 report recommending enactment of governmental indemnity legislation. Sen. Rep. No. 296, H. R. Rep. No. 435, 85th Cong., 1st Sess. (1957), pp. 2, 3. It was noted in both the AEC study (R. 884-85) and the Joint Committee report (p. 3) that the chance of a member of the public being killed by any of an assumed 100 large reactors operating in populated areas is only one in 50 million, which may be compared with the statistical chance of being killed by an automobile of one in 5,000.

On August 4, 1956, the Commission issued to PRDC a construction permit "on a provisional basis" under Section 50.35 of its regulations (R. 513, 546). This permit recited that there were areas of uncertainty with respect to the hazards potential of such a reactor that must be investigated and solved, and that the conversion of the construction permit to a license to operate the reactor was subject to submission and evaluation of a final "hazards summary report" which would adequately demonstrate the safety of the reactor as finally designed and built (R. 517). The construction permit itself as well as the Commission's covering letter of August 4, 1956, emphasized further that, while "the Commission believes that the safety problems associated with the reactor will prove to be of a kind which can be resolved within a reasonable time", the construction permit was "a conditional one" and the Commission could "make no commitment to convert the permit to a license until it is satisfied on all safety matters" (R. 514).¹¹

¹¹The conditions included in this provisional construction permit and explained more fully in the Commission's covering letter reflected the recommendations which had been made several months before by the Commission's Advisory Committee on Reactor Safeguards in a letter to the General Manager of the Commission dated June 6, 1956 (R. 587-93). At that time the Advisory Committee had no statutory basis; its function was to provide to the Commission on request advice of a technical nature with respect to reactor safety problems. The letter concluded that there was not sufficient information available "at this time to give assurance that the PRDC reactor can be operated at this site without public hazard", outlined a suggested program of investigation needed to obtain the necessary information and urged the Commission itself to assist in providing "sufficient development facilities and experimental information that the safety aspects of the PRDC reactor can be reliably appraised in advance of operation of the reactor itself" (R. 587-93). The Advisory Committee did not recommend that construction of the reactor not be undertaken or that a provisional construction permit should not be issued to PRDC.

The "theoretical and experimental programs" recommended by

Within the 30 days provided by Section 2.102 of the Commission's regulations after issuance of this permit, respondent labor unions filed petitions to intervene in the proceeding. They opposed continuation of the permit on the ground that *operation* of the proposed reactor, following its completion, would create a hazard to them, their members, and their property in the general vicinity of Detroit, and that PRDC was not financially qualified to carry out the project (R. 524). The Commission set down for hearing the question of whether the permit should be continued, modified or vacated, but refused in its discretion to suspend it pending this hearing (R. 576). In its memorandum accompanying the order, the Commission found (and respondents have never disputed) that actual construction of the reactor—the only activity authorized by the provisional construction permit—presented no hazard to the respondents or the public (R. 582).

Following an extensive hearing before a hearing examiner, and briefs and oral argument before the Commission itself, the Commission entered an initial decision modifying and continuing the provisional construction permit in effect (R. 607, 918). After further consideration of exceptions filed by respondents (R. 939) and briefs by all parties, the Commission unanimously (Commissioners Vance, Floberg and Graham) entered its "Opinion and Final Decision" on May 26, 1959, affirming its initial decision and making extensive findings of fact (R. 630).

Construction of the reactor was commenced under the provisional construction permit in August, 1956, and has continued to go forward since that time. On November 18, 1960, the Commission, for good cause shown extended the time stated in the construction permit for the completion of the facility from December 15, 1960 (R. 716), to July 15, 1961, subject to any final judgment which may be entered in these judicial review proceedings. A copy of this order has been lodged with the Clerk of this Court.

The Advisory Committee were instituted, and on the evidence adduced at the hearing the Commission here found reasonable assurance that they would successfully develop the necessary information (Finding 31, R. 710).

The Decision of the Commission

Section 182 a of the Atomic Energy Act of 1954 (Appendix, pp. 76-77) authorizes the Commission to prescribe "by rule or regulation" the information to be included in applications for licenses. Section 185 authorizes the issuance of construction permits to those seeking "license to construct or modify production or utilization facilities [reactors]" (Appendix, p. 78). Pursuant to these provisions as well as the more generalized authority contained in Section 161 i (3) to issue rules and regulations "to govern any activity authorized pursuant to this Act" (Appendix, p. 74), Section 50.34 of the Commission's regulations specifies the extensive technical information required to be included in applications for reactor licenses (Appendix, pp. 80-81). Section 50.35, entitled "Extended time for providing technical information", authorizes the issuance of construction permits "on a provisional basis", prior to submission of all technical data required by Section 50.34, in those cases where, "because of the nature of a proposed project" such data are not initially available. Issuance of such a provisional or conditional permit requires a finding by the Commission, *inter alia*, of "reasonable assurance that a facility of the general type proposed can be constructed and operated at the proposed location without undue risk to the health and safety of the public" (italics supplied; see full text of regulation in Appendix, p. 81 below). Issuance of an operating license is specifically subject to the later production by the applicant of the requisite additional technical information when it becomes available, and to the subsequent definitive determination by the Commission, after a hearing and before such license can be issued, that "the final design provides reasonable assurance that the health and safety of the public will not be endangered." The provisional construction permit contemplated by this provision of the regulations thus authorizes only construction, and carries no presumption or implication that an operating license will follow, unless the applicant is later able to sustain the burden of adequately showing the safety of "the final

design" of the reactor, after a complete new safety review including a compulsory public hearing directed to this issue.

The Commission in its final opinion and decision here made the precise findings called for by its regulations. It found in the words of Section 50.35 that there was "reasonable assurance", for purposes of the provisional construction permit in question, that "a utilization facility of the general type proposed in the PRDC Application and amendments thereto can be constructed and operated at the location without undue risk to the health and safety of the public" (Finding 22, R. 708, and Opinion, R. 665; see also Finding 30, R. 710; Finding 32, R. 710-11). Respondents make no contention that these findings are not amply supported by the evidence.¹² In fact, the construction permits issued for every one of the eight other developmental power reactors authorized prior to the decision below were similarly "provisional" permits, issued under this regulation, and were supported by the same finding of reasonable assurance of safety in terms of "the general type proposed".¹³ In support of its ultimate findings, the Commission here summarized and quoted extensively from the expert testimony on the safety of the general reactor type proposed, including testimony of several members of the Advisory Committee on Reactor Safeguards, noting that the witnesses were in surprisingly close agreement. See Opinion, R. 672-77.

In its opinion and decision the Commission made it perfectly clear that it interpreted Section 50.35 of its regulations as requiring a less definitive determination of safety

¹² In their final statement of the issues presented to the Court of Appeals (R. 951-53), respondents did not attack any of the Commission's site or safety findings as unsupported by the evidence. Respondents did urge to the Court of Appeals that those findings of the Commission with respect to PRDC's financial qualifications were not supported by the evidence and should be set aside. See Supplemental Statement of Issues, pars. 4, 5, R. 952-53. This latter issue, however, was not reached or considered by the court below.

¹³ See projects listed in our petition for certiorari (No. 315), pp. 40-41; Government petition for certiorari (No. 454), pp. 61-64.

of operation for issuance of a "provisional" permit authorizing only construction than would be subsequently required to support issuance of an operating license:

"The degree of 'reasonable assurance' with respect to safety that satisfies us in this case for purposes of the *provisional* construction permit would not be the same as we would require in considering the issuance of the *operating* license" (AEC Opinion, R. 679-80).

In fact, the establishment of this step-by-step licensing procedure was the very objective of the regulation, an objective made necessary by the nature and inherent characteristics of a developmental reactor in the setting of the present status of nuclear progress. See AEC Opinion, R. 676, and pp. 30-33, below. Accordingly, the Commission stated that, as Section 50.35 of its regulations contemplates, its determinations with respect to safety of operation were made for purposes only of the provisional construction permit. It emphasized that no decision was being made or implied on the issue of the definitive safety of this reactor *as completed* which would be presented in connection with the further proceedings required to be had before an operating license could issue. This issue, it made clear, would be judged by the necessarily more severe standards of reasonable assurance then called for (R. 649-50, 679-80).

Before there can be operation of the reactor, there must be a further analysis and public report on its safety by the Advisory Committee on Reactor Safeguards, and a further hearing in which PRDC will have the burden of proof and in which the respondents may participate. Following this, there must be a new decision by the Commission, on the record then made, with respect to the issue of safety of operation of the plant as it is finally completed and tested. As the Commission stated it,

"Before we authorize the issuance of an operating license to PRDC at a further reopening of this proceeding, we will require that all safety questions be

answered to our complete satisfaction, as required by the statute and our regulations. Under such circumstances, the public interest and that of the Intervenor-respondents have been protected" (R. 634-35).¹⁴

From the outset, PRDC has understood and accepted the fact that issuance of its provisional construction permit carries with it no implication whatever that an operating license will later be granted. It has explicitly recognized that, if it should be unable to sustain the burden of showing that the reactor as completed can be safely operated in accordance with the rigid standards of proof which are necessarily and properly required by the Commission for such determination, it would not be able to obtain authority to operate the reactor. In this case components of the reactor might then have to be redesigned, additional protective devices might have to be designed and built, or, conceivably, the reactor portion of the plant might have to be dismantled and scrapped, the project then having demonstrated a reactor of this design not to be feasible for its intended purpose. The assumption of the financial risks thus presented was knowingly accepted in this non-profit research undertaking as an inevitable concomitant of progress in nuclear technology at this early stage of development of the art.¹⁵

¹⁴ An extensive and detailed procedure for continuing review of safety and financial questions was specifically provided for in the decision (R. 711-12), in the order entered (R. 713-14, 679-80), and in the terms of the amended construction permit itself (R. 717-19). In addition, Sections 182b and 189a of the Act (as amended in 1957, 71 Stat. 579) specifically require a new evaluation and report by the Advisory Committee on Reactor Safeguards and a formal hearing after notice and publication before an operating license can be issued.

¹⁵ The Commission in its opinion stated that "it would be hard to imagine a case where an applicant would be less able to argue that he had been misled by previous favorable Commission action" (R. 650). See also pp. 51-53, below.

The Decision of the Court of Appeals

Respondent labor unions duly filed with the Court of Appeals for the District of Columbia Circuit a petition to review the Commission's decision under Section 189 b of the Atomic Energy Act and the provisions of the Judicial Review Act of December 29, 1950, as amended, and of the Administrative Procedure Act (R. 946, 951; 64 Stat. 1129, as amended, 5 U.S.C. §§ 1031 *et seq.*; 60 Stat. 243, 5 U.S.C. § 1009). On June 10, 1960, a majority of a division of that court reversed the Commission and ordered the provisional construction permit set aside on the ground that the findings made were insufficient to satisfy the statutory requirements.

The court held that under the Atomic Energy Act of 1954 the Commission was required to make the same finding with respect to safety of operation of a proposed reactor "as of the time the construction permit is issued" that it admittedly must make "when it authorizes operation" (R. 957). The court nowhere cited or discussed Section 50.35 of the Commission's regulations. As stated above, this regulation establishes a two-stage procedure calling for the issuance of a "provisional" construction permit on the basis of an initial finding of reasonable assurance of safety only "of the general type proposed," to be followed prior to issuance of an operating license by a more definitive finding, based upon evidence to be adduced in a further new hearing, that "the final design provides reasonable assurance that the health and safety of the public will not be endangered." Ignoring this regulation, the court held that the Commission must make initially the definitive finding admittedly required before operation, that the reactor can be operated at the proposed site without undue risk (R. 957).

The effect of the court's decision is necessarily to invalidate Section 50.35 of the Commission's regulations and the step-by-step licensing concept which it embodies. While admitting that there are strong practical and technical reasons behind the Commission's provisional construction permit policy (R. 962), the court interpreted the provi-

tions of Sections 182 a and 185 of the Act as depriving the Commission of authority to follow such procedure. Although the Commission's construction is entirely consistent with the specific language of these sections, (pp. 76-78, below), the court relied upon an isolated item selected from the extensive legislative history of the Act to support its own interpretation (R. 958-60) (pp. 37-47, below). It recognized that the meaning of the statutory provisions in question might be doubtful, but it resolved that doubt against the Commission, contrary to ordinary canons of statutory construction (R. 960).

Having concluded that the statute required a definitive and final determination of safety of operation as a prerequisite to issuance of any construction permit, the court then examined the Commission's findings and held them to be "ambiguous" in not clearly meeting this standard (R. 960-63). In fact, as the Commission's opinion makes abundantly clear, its findings did not purport to be definitive safety determinations in the sense required by the court's decision, since the plain provisions of Section 50.35 of the regulations called for such determination to be made only at a later stage of the proceedings. This is a stage which has not yet been reached, and at which a further public hearing on the ultimate question of safety of operation of the reactor as completed will be required, and a new comprehensive determination of this question made on the basis of the technical evidence then adduced.

The court rested its decision on the merits on an additional ground which has even more serious implications for effective administration of the Act and for the future of the country's nuclear development program. After quoting from statements in the introduction to a technical Commission study with respect to the "possible consequences" of "certain hypothetical major accidents" which might occur in "a typical large nuclear power reactor" (discussed at pp. 56-57, below), the court concluded, without referring to any identified statutory provision or to any specific item of legislative history, "that Congress intended

no reactor should, without compelling reasons, be located where it will expose so large a population to the possibility of a nuclear disaster" (R. 964). By adding the dictum that it need not now consider "whether even the most compelling reasons for preferring this location" could support a finding that the reactor could be operated there without undue risk (R. 965), the court indicated that its basic intent was, as a practical matter, to deter the Commission from approving the location of *any* large power reactor in an area having a population density comparable to that found here. The Commission, of course, has not here or in any other reactor licensing case considered it either necessary or appropriate to find "compelling reasons" for the selection of a particular location so long as it made the findings required by its regulations that the location was a suitable one, taking into consideration *all* factors, including the population distribution in the area.

Circuit Judge Burger vigorously dissented from all aspects of the court's decision. He considered the Commission's practice in issuing provisional construction permits fully consistent with the statute, stating that

"In an area involving as much scientific uncertainty as development of nuclear energy for peaceful purposes, the Commission must be permitted to proceed step by step, *i.e.*, make its preliminary finding of probable safety when the construction permit issues and reserve final approval of operations until a later date" (R. 966).

Judge Burger further characterized that portion of the decision dealing with the suitability of the location of the reactor as an unwarranted assumption by the court of "responsibilities which Congress vested in the Commission" (*ibid.*). He accordingly thought that the petition for review should have been dismissed.

Following denial of petitions for rehearing *en banc*, an order staying transmission of the court's opinion and judgment pending application for certiorari was entered on

August 8, 1960 (R. 971). On November 14, 1960, this Court granted writs of certiorari (Nos. 315 and 454, 364 U.S. 889), limited to the two questions stated herein (pp. 3-4, *supra*).¹⁶

SUMMARY OF ARGUMENT

I

All agree that mere construction of a reactor—the only activity authorized by the Commission's order in question—presents no public safety question whatever. The court below has nevertheless held that the Atomic Energy Act of 1954 requires the Commission to make the same definitive findings with respect to safety of operation of a proposed reactor as a basis for issuing a provisional construction permit that admittedly must be made prior to issuance of an operating license (R. 957). Although the court nowhere cited or discussed Section 50.35 of the Commission's regulations, the inevitable effect of its decision is to invalidate this regulation and the step-by-step licensing procedure which it provides.

¹⁶ The third question decided by the court below (R. 956-57, 965-66) and presented in the petitions for certiorari was whether the Commission's order was "final" as to these respondents and sufficiently "aggrieved" them to make it reviewable under the applicable statutory provisions (60 Stat. 243, 5 U.S.C. § 1609; 64 Stat. 1129, as amended, 5 U.S.C. §§ 1031 *et seq.*; 68 Stat. 955, as amended, 42 U.S.C. § 2239). This question goes to the jurisdiction of the reviewing courts and so cannot be avoided if the questions presented on the merits are to be decided. *Federal Communications Commission v. National Broadcasting Co.*, 319 U.S. 239, 246; *United States v. Storer Broadcasting Co.*, 351 U.S. 192, 197. While the question is believed to be substantial, it will not be argued further here in view of this Court's order limiting the grant of certiorari to the questions on the merits (R. 972, 973, 364 U.S. 889). A discussion of this question is contained in our petition for certiorari (pp. 32-38), and in our brief (pp. 14-23) and petition for rehearing *en banc* (pp. 20-22) below, copies of which have been lodged with the Clerk of this Court.

A. The basic purposes of the Atomic Energy Act of 1954 were "to encourage widespread participation" by private industry "in the development and utilization of atomic energy for peaceful purposes" (Section 3 d, Appendix, p. 70), with priority to and a minimum of regulatory restriction on those research and development projects likely to lead to major advances in the application of atomic energy for industrial or commercial purposes (Section 104 b, Appendix, pp. 72-73). Within this directive the Commission was given broad authority by the licensing provisions of the Act contained in Sections 182 and 185 to regulate these projects so as to "provide adequate protection to the health and safety of the public", and to issue rules and regulations in accordance therewith (Section 161 b, i, and p, Appendix, p. 74). Section 182 provides that "in connection with applications for licenses to operate" reactors, the Commission shall require the submission of such information as is necessary to enable it to find that such operation will be safe (Appendix, pp. 76-77). Section 185 provides for issuance of construction permits if the application therefor "is otherwise acceptable to the Commission" (Appendix, p. 78).

B. In implementing these statutory provisions the Commission was plainly aware, as it found here, that at the present stage of nuclear technology the process of constructing an advanced developmental reactor is itself an integral part of the development of its final design, required for definitive assessment of the safety with which it can be operated (pp. 30-33, below). To give effect to this fundamental technological fact while at the same time providing adequate protection to the public safety and discouraging expenditure on proposals of little promise, the Commission developed the provisional construction permit procedure embodied in Section 50.35 of its regulations.

This regulation (Appendix, p. 81) provides for the issuance in appropriate cases of construction permits "on a provisional basis" if the applicant can show "reasonable assurance" that a reactor "of the general type proposed" can be operated at the proposed site "without undue risk

to the health and safety of the public" and that any further necessary information "will be supplied". Such a provisional permit is expressly subject to the later determination, prior to authorization of operation, that "the final design provides reasonable assurance that the health and safety of the public will not be endangered". This regulatory scheme is fully consistent with the statutory licensing provisions; the wording of Section 182 a makes it clear that it is in connection with applications for licenses "to operate" reactors that the Commission must make the definitive determination of safety of such operation, and Section 185 authorizing construction permits contains provisions that contemplate both the submission of further information as construction progresses and a final safety determination by the Commission on the basis thereof (Appendix, pp. 76-78). These provisions on their face thus call for rather than forbid the type of regulatory structure erected on them by the Commission in Section 50.35 of its regulations.

C. The Commission made the precise findings required by this regulation, that there is "reasonable assurance" of safety of "the general type" of reactor proposed (R. 708, and pp. 34-35, below). Both in these findings and in its accompanying opinion it made clear that its regulation contemplates that this safety determination of the general reactor concept is necessarily made on the basis of a lesser degree of reasonable assurance than will later be required with respect to "the final design", prior to issuance of an operating license (R. 679). That the degree of reasonable assurance of safety required to be shown for the general design concept is inherently of a different order than that which can and must later be shown for the reactor as finally built and tested is fundamental to the Commission's regulatory scheme. The decision of the court below, holding issuance of a provisional construction permit on this basis to be beyond the Commission's statutory authority, overturns this basic regulatory structure. The further statement of the court below that the Commission's findings were "ambiguous" (R. 963) similarly stems from

its erroneous premise that a definitive finding with respect to the safety of the particular design initially submitted is required before a provisional construction permit can be issued. The findings made did not purport to meet such a standard.

D. Nothing in the legislative history of the Atomic Energy Act of 1954 justifies this limitation on the Commission's authority. The exchange between Senator Humphrey and Senator Hickenlooper to the effect that "a license and construction permit are equivalent" (relied upon by the court below, R. 958-60), must be considered in the light of the several specific amendments to which it was related and of the controversy over public power policy of which it was a part. A careful consideration of the amendments then under discussion and their setting shows that neither participant in this colloquy was considering the question of safety determinations or the stage of the proceeding at which they should be required to be made (pp. 37-47, below).

E. Finally, the provisional construction permit procedure followed by the Commission here and in other power reactor license cases represents an appropriate exercise by the Commission of the responsibility delegated to it by Congress. The Commission's regulation and consistent practice thereunder have been repeatedly brought to the attention of Congress, which, while amending the Act with respect to certain other aspects of reactor licensing, has made no attempt to alter the Commission's basic two-step approach. The court below not only ignored this legislative acquiescence in the Commission's interpretation but, contrary to the accepted rule (*United States v. American Trucking Associations, Inc.*, 310 U.S. 534, 549), it resolved its doubts as to the Act's meaning against that interpretation, on the mistaken assumption that such resolution was "on the side of safety" (R. 960). In fact, the question of the safety of this reactor is not presented at all at this stage of the proceedings, and if developmental reactors are to be built as Congress contemplated, it is very dubious whether

public safety would in the long run be promoted by the rigid rule enunciated by the court below that the definitive safety determination of every reactor is required to be made prior to construction rather than in connection with start-up and operation.

II

As an alternative ground of decision, the court below held the Commission's findings that the site is a suitable one for such a reactor to be deficient because of a failure to find "compelling reasons" for the selection of a location within a moderate distance (30 miles) of a substantial city (R. 964). This holding was expressly stated to be applicable to any large power reactor and was not related to any unique characteristics of this particular project. In reaching its conclusion, the court cited no specific portions of the statute or its legislative history as requiring or justifying this limitation on the Commission's authority to approve reactor locations. Rather, it relied upon statements with respect to the maximum potential damage which could result from a large reactor accident, as reported to Congress in a Commission study in 1957 (R. 349-56, 894-900), without considering also the conclusions stated in the same study with respect to the availability of adequate protection which could be provided against such dangers and the extraordinarily remote possibility of such an occurrence (R. 879-86, 901-14).

A. The population distribution around the site was considered by the court below to be its single disqualifying factor (R. 964-65). The reactor is located on a large plot in an essentially rural area (R. 706-07). The distribution of population in the vicinity of the site is generally comparable to that of other demonstration power reactors constructed or licensed by the Commission. The location of several of these projects was specifically considered during hearings and debates on the Atomic Energy Act of 1954 (pp. 60-61, below). The legislative history also shows that Congress at that time was plainly aware of the extent of the possible damage which could result from

a reactor accident, as well as of the availability of means to prevent such damage from occurring (pp. 59-60, below). With all this before it, Congress chose to grant to the Commission broad authority with respect to reactor location as well as other factors to be weighed in carrying out its statutory duty to provide adequate protection to public health and safety, rather than to impose rigid statutory limitations on site selection.

B. The Commission's consistent practice since enactment of the 1954 Act in licensing (and in building itself) large developmental power reactors and associated electric generating facilities "near but not in" commercial and industrial centers has been brought forcefully to the attention of Congress and has resulted in no corrective legislation in spite of frequent and pertinent amendment of the Act. The very study made by the Commission in 1957 which was referred to by the court below was considered in detail by the Joint Committee on Atomic Energy in 1957, when it recommended and Congress enacted amendments to the Act which provided governmental indemnity for liability of licensees and contractors arising out of reactor accidents and which added certain procedural safeguards to the Act's licensing provisions. Congress did not include in such amendments any limitation on the Commission's authority with respect to reactor location, although the suggestion was made by a dissenting member of the Joint Committee that remote location should be required. See pp. 62-66, below.

C. Finally, this aspect of the decision of the court below ignores a definitive finding by the Commission of reasonable assurance that the proposed site is suitable for a reactor of the proposed size and type (R. 710-11). This finding, like the Commission's other findings on site and safety, is not attacked as unsupported by the evidence. The necessary effect of the decision below is thus to substitute the judgment of the court for that of the Commission with respect to matters that were not only plainly entrusted to the Commission's expert discretion by Congress

but that fall in the highly technical field of nuclear technology in which the Commission's special knowledge, experience and understanding are of particular importance.

ARGUMENT.

1

THE COMMISSION'S FINDINGS OF REASONABLE ASSURANCE THAT A REACTOR OF THE GENERAL TYPE PROPOSED CAN BE SAFELY OPERATED AT THE PROPOSED SITE WERE SUFFICIENT TO SUPPORT ISSUANCE OF A PROVISIONAL CONSTRUCTION PERMIT UNDER THE STATUTE AND REGULATIONS

A majority of the court below held unequivocally that under the statute the Commission cannot issue a construction permit for a power reactor unless *at that time* it makes the same definitive findings with respect to safety of the proposed reactor that admittedly must be made prior to issuance of an operating license. The court quoted the contention of the respondents that

"The Act and the regulations of the Commission . . . require, as conditions precedent to the issuance of every construction permit for an atomic energy power reactor, that *as of the time the construction permit is issued* the Commission find that (1) it has reasonable assurance that the reactor may be constructed and operated at the proposed site without undue risk to the health and safety of the public. . . ." (R. 957) (italics in original).

The court then added:

"It is undisputed that the Commission must make such a finding when it authorizes operation. The question is whether it must make such a finding when it authorizes construction. *In our opinion it must*" (*ibid.*) (italics supplied).

It is thus plain that, although the court neither discussed nor cited Section 50.35 of the Commission's regulations,

the inevitable effect of its decision is to invalidate this regulation, the step-by-step licensing procedure which it provides, and the Commission's settled practice of issuing construction permits for developmental power reactors thereunder "on a provisional basis."

It is believed that a consideration of the relevant statutory provisions and their setting will make clear that this conclusion of the court below is erroneous, and that the Commission's regulation and action thereunder are in full accord with the provisions of the Atomic Energy Act. The decision below is based in large part upon a misunderstanding or disregard of the basic Congressional purpose to give broad effect to the Commission's expert evaluation of the many complex technical factors which must be considered in effectuating rapid and safe progress in the design, construction, testing and operation of developmental power reactors at this early stage of the application of atomic energy for peaceful uses.

A. TO EFFECTUATE ITS PURPOSE OF ENCOURAGING WIDESPREAD PARTICIPATION IN THE DEVELOPMENT AND USE OF ATOMIC ENERGY FOR PEACEFUL PURPOSES, THE ACT PRESCRIBES PRIORITY FOR ADVANCED DEVELOPMENTAL REACTOR PROJECTS AND GIVES THE COMMISSION BROAD AUTHORITY TO IMPLEMENT ITS GENERAL LICENSING PROVISIONS.

The Atomic Energy Act of 1954 is one of the landmark statutes of the postwar period. One need only turn to the Act's introductory section to see that the basic impulse behind it was an attempt to strengthen national security and improve the general welfare by encouraging and expediting the "widespread participation" of private industry in developing atomic power (Sections 1, 3, Appendix, p. 70). Reference to the statute's extensive legislative history¹⁷ confirms the existence of broad Congressional recognition of the urgent need to accelerate

¹⁷ This legislative history has been organized and published in three volumes, of 3994 pages. See U.S. Atomic Energy Commission, *Legislative History of the Atomic Energy Act of 1954* (GPO, 1955). For convenience it is hereafter cited as *Legis. Hist.*, and is included with citation of original sources.

the development of nuclear energy for peaceful purposes by allowing others in addition to the Federal Government to enter the field. Members of the Joint Committee on Atomic Energy acknowledged repeatedly that the United States was engaged in a crucial race for supremacy in peacetime atomic progress and that early exploitation of the ingenuity and inventiveness of private enterprise was essential. Congress acted on an impressive body of evidence that demonstrated the desirability of private industrial development of many different kinds of nuclear reactors, to be located in various parts of the United States, and that emphasized the importance of speed in such development in order to maintain American leadership in this field.¹⁸

In the substantive licensing provisions of the Act, Congress distinguished between commercial projects (Section 103) and research and development projects (Section 104) (Appendix, pp. 71-73, below).¹⁹ More specifically, the Act contains a mandate to the Commission to refrain from imposing unnecessarily restrictive regulations

¹⁸ See, e.g., *Hearings Before the Joint Committee on Atomic Energy on S. 3323 and H.R. 8862, to Amend the Atomic Energy Act of 1946*, 83d Cong., 2d Sess. (1954), pp. 197-98, 570, 582, II *Legis. Hist.* 1831-32, 2208, 2220; 100 *Cong. Rec.* 11661, 11973, 14870, III *Legis. Hist.* 2879; 3004, 3723; statement of Dr. Lawrence R. Hafstad, Director of Reactor Division, *Hearings Before the Joint Committee on Atomic Energy on Atomic Power Development and Private Enterprise*, 83d Cong., 1st Sess. (1953), pp. 22-23.

See also provisions of the Atomic Energy Act of 1954 contained in Sections 1, 3.a, d, and 104 b, Appendix, pp. 70, 72-73, below.

¹⁹ Section 103, entitled "Commercial Licenses," requires a number of additional findings by the Commission. As a further prerequisite to the issuance of a commercial license, Section 102 requires the Commission to make a finding that the type of facility "has been sufficiently developed to be of practical value for industrial or commercial purposes" (Appendix, pp. 71-72, below). See also Section 105 c, which requires the Attorney General to advise the Commission whether a proposed commercial license "would tend to create or maintain a situation inconsistent with the antitrust laws." No commercial licenses under Section 103 have yet been issued by the Commission.

on developmental projects to be licensed (like the PRDC project) under Section 104. Section 104 b provides:

“b. The Commission is authorized to issue licenses to persons applying therefor for utilization and production facilities [reactors] involved in the conduct of research and development activities leading to the demonstration of the practical value of such facilities for industrial or commercial purposes. *In issuing licenses under this subsection, the Commission shall impose the minimum amount of such regulations and terms of license as will permit the Commission to fulfill its obligations under this Act to promote the common defense and security and to protect the health and safety of the public and will be compatible with the regulations and terms of license which would apply in the event that a commercial license were later to be issued pursuant to section 103 for that type of facility. In issuing such licenses, priority shall be given to those activities which will, in the opinion of the Commission, lead to major advances in the application of atomic energy for industrial or commercial purposes*” (italics supplied) (Appendix, pp. 72-73).

In other words, Section 104 b enjoins the Commission not to impose in the way of research and development projects (such as that involved here) any administrative roadblocks that are not essential from the standpoint of security and safety, and it requires that priority be given to those activities most likely to lead to “major advances” in the industrial application of nuclear energy. The utmost encouragement is thus to be given to those developmental projects which give promise of pointing the way to major advances, as distinguished from those involving smaller steps forward. The Commission here found that the proposed PRDC project is one which qualifies for such encouragement (Findings 5, 10, 26, R. 702, 704, 709).

Section 182 a of the Act (Appendix, pp. 76-77) particularizes the nature of the Commission's obligations recited in Section 104 b “to protect the health and safety of the public” by providing specifically that in connection with

applications for "licenses to operate production or utilization facilities" [reactors] the applicant shall state such technical specifications and other information as the Commission's regulations shall require to enable it to find that such operation "will be in accord with the common defense and security and will provide adequate protection to the health and safety of the public." In other words, this key statutory provision states in terms that it is in connection with the issuance of an *operating license* that the Commission is required to make its definitive determination of *operating safety*.²⁰

Section 185 (Appendix, p. 78) is fully consistent with this concept. This section provides specifically for the issuance of construction permits to applicants for "licenses to construct or modify" production or utilization facilities, "if the application is otherwise acceptable to the Commission." It further provides that upon completion of the construction of the facility, "upon the filing of any additional information needed to bring the original application up to date," upon a finding that the facility has been constructed "and will operate" in conformity with the application "as amended" and with the Act and the Commission's rules and regulations, and "in the absence of any good cause" shown to the contrary, the Commission shall issue an operating license to the applicant. Again, this section in

²⁰ This language is highlighted by that used elsewhere in Section 182 a and in Sections 182 b, c, and d, where reference is made not to licenses "to operate" but merely to licenses generally, or licenses for a "facility." The latter usages plainly include a construction permit (as the last sentence of Section 185 expressly provides), while the former in terms excludes such meaning. See full text of these provisions in Appendix, pp. 76-77.

See also Section 104 d (Appendix, p. 73), providing that no "license" may be issued to any person under Section 104 "if, in the opinion of the Commission, the issuance of a license to such person would be inimical to the common defense and security or to the health and safety of the public". The Commission expressly found here that issuance of this provisional construction permit "will not be inimical to the common defense and security or to the health and safety of the public" (Finding 35, R. 711).

terms recognizes that an initial application need not and in many instances cannot contain all of the information required to be evaluated at the time the operating license is issued.

Finally, in addition to the directive contained in Section 182 a (above) to implement the statutory licensing provisions by rules and regulations, Section 161 i (3) further authorizes the Commission to "prescribe such regulations or orders as it may deem necessary . . . to govern any activity authorized pursuant to this Act, including standards and restrictions governing the design, location, and operation of facilities used in the conduct of such activity, in order to protect health and to minimize danger to life or property." See also Section 161 b, p (Appendix, p. 74).

These provisions, then, constitute the statutory framework on which the Commission was required to erect its regulatory structure. None of them specifies that the Commission must make its definitive reactor safety finding at the construction-permit stage of the proceedings.

B. THE COMMISSION'S PROVISIONAL CONSTRUCTION PERMIT REGULATIONS ARE CONSISTENT WITH APPLICABLE STATUTORY PROVISIONS AND RESULT FROM THE NECESSARY ACCOMMODATION OF NUCLEAR TECHNOLOGY TO THE BASIC OBJECTIVES OF THE ACT

In preparing its regulations under these new statutory provisions, the Commission was thus faced with the very practical problem of determining what showing is to be required at the construction permit stage, having in mind especially the problems necessarily presented by developmental projects to which Congress directed it to give priority. The construction of such a large power reactor and associated generating facilities necessarily takes about four or five years. Yet the entire history to date of the peaceful application of nuclear energy comprises a span of only a little over a decade, and certainly for the next few years relatively brief periods undoubtedly will continue to witness vast accretions of knowledge in this field. The Commission with its detailed familiarity with the

course" of technological progress in atomic energy, was plainly aware of the fact, which it specifically found in this case, that

"it is in the nature of reactor design, although certainly not unique to it, that many features remain to be designed and demonstrated after construction is begun and indeed some features redesigned and replaced after operation is under way . . ." (R. 676).

The Commission also quoted approvingly (*ibid.*) the uncontradicted testimony of the late Dr. Mark Mills, a member of the Advisory Committee on Reactor Safeguards, that "practically all advanced technological developments take place with a sort of combined construction and research and development and necessary dovetailing of these things . . ." (R. 73-74), and of Dr. Hans Bethe that "the simultaneous pursuit of programs of research, development and construction has become standard in the fast-moving field of atomic energy and is necessary in order to keep abreast or ahead of our competitors" (R. 739). More specifically with respect to the area involved here it found that "technology regarding fast breeder nuclear reactors is a rapidly advancing art, and utilization and production facilities that will permit the most complete use of fuel for atomic energy offer a substantial advancement in this field" (Finding 5, R. 702).²¹

The Commission has thus understood fully from the outset that an advanced developmental reactor as contemplated by Section 104 b is by its nature a step beyond pre-

²¹ With respect to this particular reactor, the Commission further stated that

"As in the case of any other power reactor at this stage of the art, in addition to the design features of the reactor which will be determined and demonstrated before the actual construction of the reactor, many other such features will be determined and demonstrated during its actual construction. This fact merely underlines the importance of the development of the fast breeder reactor at an early date" (R. 668-69).

viously constructed and operated facilities. Continuing design modification based on experience obtained as construction progresses is unavoidable for this type of project. Furthermore, in view of the potential consequences of a release of fission products to the environment, the very high degree of assurance of safety of operation which must be shown for any large reactor before such operation is permitted itself makes it impracticable for the Commission to reach this definitive decision with respect to such a developmental reactor on the basis of blueprints alone. This determination inevitably requires at the minimum the expert analysis and evaluation not only of the practical experience and associated research and experimental data gained in the course of construction, but also of the results of the extraordinarily rigid analysis, inspection and testing to which all of the numerous systems of such a reactor must be subjected after installation and prior to issuance of any operating permission.

It was readily apparent to the Commission, therefore, that to require a definitive safety finding with respect to operation of all reactors at the construction permit stage would render it essentially impossible ever to allow non-Governmental bodies to construct developmental reactors which would, in the words of the statute, "lead to major advances in the application of atomic energy for industrial or commercial purposes." At best it would considerably delay private development in this field. Either result would be contrary to the stated Congressional policy to foster private developmental programs with the greatest practicable expedition.

On the other hand, the Commission was understandably concerned that, in the absence of a preliminary showing with respect to probable safety of operation, ill-considered projects, having no substantial chance of successful completion or eventual licensing, might be encouraged with resultant economic waste. Acting pursuant to the authority granted by Congress, the Commission accordingly promulgated Section 50.35 of its regulations as a sensible and practicable solution to this problem. The step-by-step procedure which it contemplates was designed to accommodate

the technological facts of life, with which the Commission was fully acquainted, to the Congressional mandate.

Although we have summarized Section 50.35 of the Commission's regulations above, its substance bears repeating. This regulation provides that, in cases where the nature of a project is such that it is not practicable to submit initially all the technical information needed to complete the application for license, a construction permit may be issued "on a provisional basis," if the applicant can show "reasonable assurance" that a reactor "of the general type proposed" can be operated at the proposed site "without undue risk to the health and safety of the public," and that "the omitted information will be supplied." It further provides that this provisional permit shall be expressly subject to a later determination by the Commission that "the final design provides reasonable assurance that the health and safety of the public will not be endangered."

This regulatory scheme is perfectly consistent with the controlling provisions of Sections 182 and 185 of the Act. As stated above (pp. 28-29), Section 182 a-makes reference to the key finding that the "utilization . . . of special nuclear material [reactor operation] will . . . provide adequate protection to the health and safety of the public" only in connection with "applications for licenses to operate production or utilization facilities" (italics supplied). The last clause of Section 50.35 of the regulations in terms so provides.

Similarly, Section 185 of the Act calls for the issuance of construction permits on applications "for licenses to construct or modify" reactors if, in the most general terms, "the application is otherwise acceptable to the Commission." This section plainly contemplates that during the course of construction there will probably have to be submitted "additional information needed to bring the original application up to date," and specifically provides further that an operating license is to be issued only when the reactor has been completed and findings have been made that it will operate (i) in conformity with the application "as amended," (ii) in conformity with the

Act and the Commission's regulations (including, of course, the specific requirement in Section 182 a that the Commission find that such operation "will provide adequate protection to the health and safety of the public"), and (iii) "in the absence of any good cause being shown to the Commission why the granting of an operating license would not be in accordance with" the statute. These provisions on their face call for rather than forbid the type of regulatory structure erected on them by the Commission in Section 50.35 of its regulations.

*C. THE COMMISSION'S FINDINGS WERE SATISFIED THE
STATUTE AND REGULATIONS AND WERE NOT AM-
BIGUOUS*

As stated heretofore, the Commission made the precise findings called for by Section 50.35 of its regulations. Finding 22 states (R. 708):

"The Commission finds reasonable assurance in the record, for the purposes of this provisional construction permit, that a utilization facility of the general type proposed in the PRDC Application and amendments thereto can be constructed and operated at the location without undue risk to the health and safety of the public."

The Commission also found that "there is no inherent hazard or danger to the health and safety of the public in the construction or operation of fast breeder reactors" (Finding 5, R. 702-03), and that issuance of this provisional construction permit "will not be inimical to the common defense and security or to the health and safety of the public" (Finding 25, R. 711), as required by Section 104 d (Appendix, p. 73).

In a further statement in its opinion, to be taken as a finding of fact (R. 700), the Commission said (R. 665):

"The principal factual issue in this proceeding is whether there is information sufficient to provide a reasonable assurance that a utilization facility of the general type proposed in the PRDC application can be constructed and operated at the location proposed therein without undue risk to the health and safety

of the public. Subsidiary to this issue is whether there is reasonable assurance that technical information omitted from, and required to complete, the application will be supplied before issuance of an operating license. *A careful evaluation of the entire record in this proceeding can only lead to an affirmative answer to all of these questions*" (italics supplied). See also Finding 33, R. 711.

These findings were held by the court below to be insufficient to satisfy the statutory requirements. The court's conclusion was based on the fact that the findings were stated to have been made for the purposes of the only matter then before the Commission, *i.e.*, "for the purposes of this provisional construction permit,"²² and from the fact that the Commission stated in its opinion that "the degree of 'reasonable assurance' with respect to safety

²² The majority opinion below attached considerable significance to the fact that in its Initial Decision of December 10, 1958, the Commission's Finding 22 (R. 615) did not include the phrase "for the purposes of this provisional construction permit" (R. 960-61). A comparison of the Initial (R. 918-38, 607-29) and Final (R. 630-712) Decisions as a whole, however, will make it clear that the Commission intended no change of substance by the inclusion of this phrase. In its Initial Decision it plainly stated that "the degree of certitude that satisfies us for purposes of the provisional construction permit would not be the same as we would require if we were at this moment considering the issuance of the operating license. 'Reasonable assurance' can be a different standard for the one purpose from what it is for the other" (R. 934). Compare AEC Opinion and Final Decision, R. 679. The Commission's reason for stating in its Final Decision that its findings were for purposes of the provisional construction permit was only to re-emphasize and to make particularly explicit, in the light of the exceptions to the Initial Decision which had been filed by respondents (R. 939-45), that the finding made was not the one which would be required to support an operating license, and was not to be taken as any indication that such a license would be issued as a matter of course. In summarizing the purport of its Final Decision the Commission stated: "we amplify and affirm our Opinion and Initial Decision dated December 10, 1958" (R. 631).

that satisfies us in this case for purposes of the *provisional* construction permit would not be the same as we would require in considering the issuance of the *operating* license" (R. 679). The essence of the court's reasoning is that the statute does not permit differing degrees of "reasonable assurance" to be applied by the Commission for provisional construction permits on the one hand and for operating licenses on the other.

This interpretation destroys the regulatory scheme based upon Section 50.35 of the Commission's regulations. The plainly stated purpose of the section is to permit construction to begin in appropriate cases where all the information needed for the final safety verification of the particular reactor is not initially available but where it can be shown that data to provide such proof can probably be obtained during the necessarily extended construction period. This purpose is effectuated by the requirement of an initial showing of "reasonable assurance" of safe operation not of the precise design projected but of a reactor "of the general type proposed." This careful phraseology recognizes the technological fact that, at this stage of development of the art, substantial design changes will in many cases be required during the course of construction, such changes to be within the concept of "the general type proposed." See AEC Opinion, R. 668-69, quoted *supra*, p. 31, footnote 21.

The use of this language in the regulation also emphasizes the basic philosophy underlying it, that the degree of certainty required to support a provisional construction permit is necessarily less than that required for purposes of an operating license. At the provisional construction permit stage the Commission is dealing, as the words of its regulation recognize, not with a definitively designed machine, but rather with a design concept ("general-type proposed"), to be perfected into a "final design" as the combined construction and research and development program progresses. The "reasonable assurance" with respect to operation which can be shown for such a design concept is inherently of a different order than that which can and must later be shown for the reactor as

finally built and tested.²³ The "reasonable assurance" required for a provisional construction permit thus embodies to a substantial degree the concept of probability that the conditions imposed can be met, i.e., that "the omitted information will be supplied" and that it can later be shown that "the final design provides reasonable assurance that the health and safety of the public will not be endangered." This is the crux of the Commission's regulatory scheme, and it is this scheme which the court below held to be beyond the Commission's statutory authority to erect.

The court's further determination that the Commission's findings were "ambiguous" (R. 963) stems from the mistaken premise that a definitive finding of safety of the reactor as initially designed is required for issuance of a provisional construction permit. On this premise, the court thought that some of the Commission's findings could be read as meeting this test but that others did not; in this respect only the court considered the findings to be ambiguous. A careful consideration of these findings in the light of the provisional construction permit regulation and of the full and plain explanation given in the Commission's opinion, however, makes it clear that none of the findings was intended to be a definitive determination with respect to this precise reactor design. The findings are not, therefore, ambiguous at all but are those contemplated by Section 50.35 of the regulations.

D. NOTHING IN THE LEGISLATIVE HISTORY INDICATES A PURPOSE TO DEPRIVE THE COMMISSION OF AUTHORITY TO ISSUE CONSTRUCTION PERMITS ON A PROVISIONAL BASIS

The court below relied heavily on an isolated passage from the legislative history of this complex statute (R. 958-60) to reach a conclusion contrary to the import of

²³ It is well recognized that the same word or phrase used in statutes or regulations may have quite different meanings, depending upon the context. Compare *Lee v. Weidman*, 358 U.S. 228, 230-31. "Reasonable assurance" may properly mean such degree of certainty, persuasion or confidence as may be expected or required under the particular circumstances, and the Commission here so interpreted these words as used in its regulation (R. 679-80).

the statutory language. This consists of a brief exchange on the floor of the Senate between Senators Humphrey and Hickenlooper, during the extensive debate on the bill (100 *Cong. Rec.* 12014, III *Legis. Hist.* 3759-60). Before turning to this colloquy, however, it is important to call attention to the setting in which it occurred—a setting apparently not considered at all by the court below.

The Atomic Energy Act of 1954 was adopted after one of the most heated and extensive debates in recent Congressional history. There was little discussion of questions such as safety criteria and procedures which were necessarily dependent upon substantial technical understanding. The core of the legislative fight was with respect to the impact of the bill on Federal electric power policy. The late Herbert S. Marks, one of the most knowledgeable scholars in this relatively new field, summarized quite well the nature of these debates and the Congressional approach taken to the issues involved in a study published shortly after enactment of the Act:

"The story of the fight over power in the enactment of the new law is a complex one. Long experience made members of Congress familiar with the intricacies of this field, whereas neither they (nor most of us) have ever felt confident about the mysteries of nuclear fission. Congressmen made the most of their experience.

"The seesaw fight on power policy is reflected in variations in successive drafts of bills before the Joint Committee, in amendments on the House and Senate floors and in further changes in the lengthy conference between the two bodies. The final compromises were not worked out until late August 1954 after debate which approached a filibuster. In dealing with power policy the new law bears traditional marks of debate and compromise—in contrast to the treatment of most other matters which were settled in Committee before

any bill was reported out and were adopted by the Congress without material change."²⁴

Senator Humphrey, although not a member of the Joint Committee on Atomic Energy, was one of the most active participants in these debates in the Senate; he opposed the administration bill throughout, and voted against its passage (100 *Cong. Rec.* 12242, III *Legis. Hist.* 3877). As the debates were drawing to a close, he called up an amendment he had offered to the construction permit provisions of the bill (Section 185) which would have added at the end of that section the clause, "and no construction permits shall be issued by the Commission until after the completion ~~of~~ the procedures established by Section 182 for the consideration of applications for licenses under this act." (100 *Cong. Rec.* 12014, III *Legis. Hist.* 3759). This amendment was withdrawn when Senator Hickenlooper explained that it had been rendered unnecessary by an amendment made to Section 189 explicitly making construction permits as well as operating licenses subject to hearings and related administrative procedures (see p. 43, n. 26, below). Because of the great reliance placed on it by the court below, the exchange in its entirety is quoted in the margin (100 *Cong. Rec.* 12014, III *Legis. Hist.* 3759-60):²⁵

²⁴ Marks and Trowbridge, *Framework for Atomic Industry. A Commentary on the Atomic Energy Act of 1954* (B.N.A. 1955), p. 38.

Throughout consideration of the bill, there was also extensive controversy over the need or desirability of amending the 1946 Act at all to permit private ownership of atomic reactors, those opposing this change urging that atomic energy should continue to be developed exclusively under the auspices of the Federal Government. See, e.g., testimony on behalf of the Congress of Industrial Organizations, in *Hearings Before the Joint Committee on Atomic Energy on S. 3323 and H.R. 8862, to Amend the Atomic Energy Act of 1946*, 83d Cong., 2d Sess. (1954) pp. 486-515, II *Legis. Hist.* 2120-49.

²⁵ "Mr. HUMPHREY. Mr. President, at the time I drew up this amendment I was not aware of the modifications which had been made to section 182 and also to the judicial review section, which

Taken at face value, out of the context of the debate as a whole, this colloquy could be read as indicating an intention on the part of Senator Humphrey, at least, to require the definitive safety determination for all reactors to be made at the construction permit rather than at the operating license stage of the proceedings. When considered in the setting in which it occurred, however, it is believed plain that neither of the parties to the exchange had in mind any such broad limitation or objective, and that neither so interpreted the statutory provisions under discussion. In fact, ~~they were not discussing~~ or considering the question of when or on what basis reactor safety determinations should be made. The area being debated was quite remote from this important but technologically complex question.

later I discussed with the chairman of the committee. The purpose of the amendment when it was prepared was to make sure that the construction of a facility was not permitted prior to the authorization of a license, because had that been done what it would have amounted to would be getting an investment of a substantial amount of capital, which surely would have been prejudicial in terms of the Commission issuing the license. In other words, if the Commission had granted the construction permit for some form of nuclear reactor, and then the question of a license was not fully resolved, surely there would have been considerable pressure, and justifiably so, for the Commission to have authorized the license once it had authorized the permit for construction.

"The chairman of the committee tells me he has modified certain sections by the committee amendments to the bill, of which at that time I was not aware. The chairman indicates to me that under the terms of the bill, as amended, the construction permit is equivalent to a license. In other words, as I understand, under the bill a construction permit cannot be interpreted in any other way than being equal to or a part of the licensing procedure. Is that correct?

"Mr. HICKENLOOPER. The Senator is correct. The staff has worked on this matter. An amendment was offered on, I believe, July 16, to section 189, having to do with hearings or judicial review, and that section was tied up with other sections of the bill. A license

Senator Humphrey's amendment had been first advocated by Representatives Holifield and Price (who also opposed and voted against the bill, 100 *Cong. Rec.* 12024-25, III *Legis. Hist.* 2962-63) in their separate views attached to the Joint Committee's report on the bill (H. R. Rep. No. 2181, 83d Cong., 2d Sess. (1954), pp. 105-38, I *Legis. Hist.* 1101-34). Under the heading "Inadequate power licensing provisions", they suggested a number of amendments to provide what they considered to be "safeguards to protect the public interest in the licensing of non-Federal agencies to produce and sell atomic power" (*id.* at 120, I *Legis. Hist.* 1116). That these amendments were concerned with Federal electric power policy rather than public safety is indicated

and a construction permit are equivalent. They are the same thing, and one cannot operate until the other is granted.

"The same is true with reference to hearings. Therefore, we believe, and we assure the Senator, that the amendment is not essential to the problem which he is attempting to reach.

"Mr. HUMPHREY. Let me ask the chairman of the committee if subsection b of section 182, which applies to license applications, also applies to construction permits. Subsection b reads:

"b. The Commission shall not issue any license for a utilization or production facility for the generation of commercial power under section 103, until it has given notice in writing to such regulatory agency as may have jurisdiction over the rates and services of the proposed activity, and until it has published notice of such application once each week for 4 consecutive weeks in the Federal Register, and until 4 weeks after the last notice.

"Mr. HICKENLOOPER. The section does. The answer to the Senator's question is 'Yes.'

"Mr. HUMPHREY. In other words, the revised sections on judicial review and on hearings and the revised section 182 on license application all apply directly to construction permits?

"Mr. HICKENLOOPER. Yes.

"Mr. HUMPHREY. With that statement, Mr. President, I withdraw my amendment. The only purpose of the amendment was to clarify that section. I am grateful to the chairman for having done it before the amendment was considered."

further by their statement that the bill's licensing provisions were lacking in adequate safeguards "except for the requirements of national security and public health and safety" (*id.* at 121, 1 *Legis. Hist.* 1117).

The only provisions of Section 182 of the bill which Representatives Holifield and Price proposed to amend were subsections b and c (redesignated in the Act as amended as subsections 182 c and d, respectively, Appendix, p. 77). These dealt with commercial license applications under Section 103, and provided for notice to regulatory agencies and for preference to those facilities located in high power-cost areas. It was urged that subsection b be broadened to require notice "to public and cooperative electric systems within transmission distance", and to provide for opportunity for intervention, hearing, and appeal in cases of protests or conflicting applications. It was similarly suggested that subsection c be amended to provide for preferred consideration "to public bodies where their applications conflict with those of privately owned systems" (*id.* at 122, 1 *Legis. Hist.* 1118).

Immediately following these proposals, Representatives Holifield and Price recommended the amendment to Section 185 which was later introduced and withdrawn by Senator Humphrey (p. 39, above), explaining that it was needed in order to make construction permits "specifically subject to the same procedural safeguards, assuring interested parties full opportunity for notice, hearing, and appeal before issuance, as are provided in connection with the issuance of licenses under Section 182". When read in conjunction with their then proposed amendments to subsections 182 b and c of the bill, including the provisions for intervention and hearings on conflicting commercial license applications proposed to be included in subsection b, it is plain that the purpose of this change in Section 185 was to implement these provisions as they were proposed to be amended.

On July 16, 1954, during the extended Senate debates, Senator Hickenlooper introduced and the Senate adopted an amendment to Section 189 of the bill to incorporate therein the specific provisions for intervention and hearings

on both construction permit and operating license applications which are now contained in the first sentence of Section 189 a of the Act (Appendix, p. 78).²⁶—On the same day Senator Humphrey introduced the three amendments mentioned above which had been suggested by Representatives Holifield and Price to broaden subsections 182 b and c of the bill; and to make their procedures specifically applicable to construction permits (pp. 41-42, above) (I *Legis. Hist.* 1165-66 [§ 182 b], *id.* at 1174 [§ 182 c], *id.* at 1168 [§ 185]). That portion of the two amendments broadening the notice and preference provisions of these two subsections specifically to include public and cooperative bodies was adopted when called up on July 22 (100 *Cong. Rec.* 11404, 11420, III *Legis. Hist.* 3475, 3479), but the provisions of the amendment to include intervention, hearing and review procedures in Section 182 b were withdrawn by Senator Humphrey on the ground that these matters were already covered by Senator Hickenlooper's hearing and judicial review amendments to Section 189 which had been previously adopted (100 *Cong. Rec.* 11404, III *Legis. Hist.* 3475).

Four days later, on July 26, 1954, Senator Humphrey called up and then withdrew the third of the three related amendments, making "completion of the procedures established by Section 182" a prerequisite to issuance of construction permits. He described his purpose in doing this as "primarily to clear the legislative history in reference to the bill" (100 *Cong. Rec.* 12014, III *Legis. Hist.* 3759). The withdrawal of the amendment was based on Senator Hickenlooper's explanation that the changes which had

²⁶ 100 *Cong. Rec.* 10685-86, III *Legis. Hist.* 3174-75; Amendment, July 14, 1954, I *Legis. Hist.* 1145-46. Senator Hickenlooper explained that his amendment "reincorporates the provisions for hearings formerly made part of Section 181 but clearly specifies the types of Commission activities in which a hearing is to be required. The purpose of this revision is to specify clearly the circumstances in which hearings are to be held. This section also reincorporates the former provisions of Section 189 dealing with judicial review" (*ibid.*).

been effected in Section 189 making construction permits expressly subject to the hearing and related procedural provisions rendered such amendment unnecessary. While the "procedures" referred to in his proposed amendment had thus been taken care of, Senator Humphrey apparently wanted also to make sure that the notice and preference provisions of subsections 182 b and c which had been broadened by his other related amendments still applied to construction permits, and this was his objective in questioning Senator Hickenlooper (quoted in footnote 25, pp. 39-41, *supra*).

It was obviously in this context that he referred to the possibility of "pressure" to obtain an operating license which might be exerted by the holder of a construction permit. The several related amendments to Section 182 with which Senator Humphrey had been concerned dealt only with *commercial* licenses under Section 103 and were concerned primarily with the situation presented by competing applications for such licenses. It is in this area, where an applicant could genuinely be misled into making a commercial investment in reliance on a construction permit, that he might "justifiably" (as Senator Humphrey put it) bring pressure on the Commission to issue an operating license, to the detriment of a competing applicant if the latter's claim had not been considered at the construction permit stage. Compare *Community Broadcasting Co. v. Federal Communications Commission*, 274 F.2d 753 (App. D.C. 1960).²⁷

²⁷ Because of a possible shortage of available special nuclear material, competing applications for licenses to use such material were considered very real possibilities, and the public power preference provision was thus thought to be of considerable practical importance. See Senator Humphrey's remarks on this at 100 *Cong. Rec.* 11420, III *Egis Hist.* 3479; compare Section 53 of the Act, providing for priority allocation to basic research "in the event that applications for special nuclear material exceed the amount available for distribution" (Appendix, pp. 70-71). In fact, no shortage of nuclear fuel and no competing applications have yet developed.

On July 23, 1954, three days before the colloquy between Senators Humphrey and Hickenlooper, Senator Jackson had expressed gen-

In this context, Senator Hickenlooper readily agreed that "a license and construction permit are equivalent" (100 *Cong. Rec.* 12014, III *Legis. Hist.* 3759), all obviously meant that they were equivalent from the standpoint of the procedural safeguards provided in his amendment to Section 189 and of the notice and preference provisions which had been in controversy. That no more than this was intended by even Senator Humphrey is indicated by his subsequent reference to this colloquy in a statement included at his request in the Congressional Record just prior to the vote on the bill in the Senate. In this statement he described the interpretation discussed on the floor and principally relied on by the court below as "applying same preference standards to construction permits as provided by previous amendment for licenses to use atomic energy" (100 *Cong. Rec.* 12242, III *Legis. Hist.* 3877). In thus describing the objective accomplished by his exchange with Senator Hickenlooper, Senator Humphrey indicated again that even the minority did not have in mind the far-reaching limitation on the Commission's authority which the court below has now imposed.²⁸

crally similar arguments in favor of this same amendment to Section 185, making it even clearer that he considered that the amendment was needed to prevent circumvention of "the carefully devised provisions of the bill relating to issuance of licenses" (100 *Cong. Rec.* 11560, III *Legis. Hist.* 3528). The provisions to which he referred in terms (100 *Cong. Rec.* 11558-60, III *Legis. Hist.* 3526-28) were the "safeguards" outlined by Representatives Holifield and Price in their separate statement and described above at pp. 41-42.

²⁸ The progress of the legislation in the House verifies this conclusion. At the outset of the debate, Representative Holifield stated that he would later offer 33 amendments including four (Nos. 29-31, 33) to Sections 182 and 185 of the bill (100 *Cong. Rec.* 10956-58, III *Legis. Hist.* 2846-48; see H. R. 9757, S. 3690, 83d Cong., 2d Sess. (1954), I *Legis. Hist.* 625-29, 729-33). These four covered the same ground as the three amendments introduced by Senator Humphrey in the Senate (I *Legis. Hist.* 1165-66, 1168, 1174) and required (1) notice of commercial license applications to be given to public bodies and cooperatives (§ 182 b); (2) intervention and hearings in cases of conflicting or protested commercial applications (§ 182 b); (3) preference for public and cooperative bodies in granting commercial

Examination of the specific statutory language enacted in Sections 182 and 189 confirms that Senators Humphrey and Hickenlooper were right that no amendment was needed to make either the revised hearing and judicial review provisions of Section 189, or those provisions of Section 182 which have reference only to "licenses" generally, applicable to construction permits. As pointed out above (pp. 28-29, 33) a distinction is drawn in Section 182 between the generic term "licenses" (which includes construction permits as stated in Section 185), and the more limited expression, "licenses to operate". The former term alone is used in the notice and preference subsections c and d (originally designated b and c) in which Senator Humphrey was interested, while the latter is the term used in connection with the Commission's safety determination called for in subsection a. Neither the amended Section 189 referred to by Senator Hickenlooper nor Senator Humphrey's withdrawn amendment to Section 185 can reasonably be read as intended to obliterate this distinction.

licenses (§ 182 c); and (4) "completion of the procedures established by section 182 . . ." before issuance of construction permits (§ 185). See 100 *Cong. Rec.* 10958, III *Legis. Hist.* 2848. When the licensing provisions of the bill came up for amendment in the House, Representative Cole (Chairman of the Joint Committee) first offered an amendment, identical to that earlier offered by Senator Hickenlooper in the Senate (pp. 42-43, above), expanding Section 189 so as to provide for hearings on licenses and construction permits as well as judicial review (100 *Cong. Rec.* 11747, III *Legis. Hist.* 2955). As in the Senate, this amendment passed without opposition. *Ibid.* The first and third of the Holifield amendments, concerning notice (§ 182 b) and preference for public bodies (§ 182 c) were offered immediately following passage of the Cole amendment (100 *Cong. Rec.* 11747-49, III *Legis. Hist.* 2955-57). Neither the proposal to amend Section 182 b to provide procedure for intervention and hearings nor that to amend Section 185 to make construction permits subject to the procedures which Section 182 would have contained had it been so amended were offered at this or any other time, however, for the obvious reason that the Cole amendment accomplished the objectives of these proposals.

In relying on this colloquy without reference either to its background or to the specific statutory language with which it was concerned, the court below has erroneously imposed on the Commission a serious restriction which was neither justified by the statutory provisions nor intended by the parties to the exchange. Legislative history is most useful in revealing general purpose and not "the specific meaning of a statute on a particular occasion." Cox, *Judge Learned Hand and the Interpretation of Statutes*, 60 Harv. L. Rev. 370, 379 (1947). The exchange relied on is a good illustration of the wisdom of the proposition that "a loose statement even by a chairman of a committee, made imprudently in the heat of debate, less informing in cold type than when heard on the floor, will hardly be accorded the weight of an encyclical." Frankfurter, *Some Reflections on the Reading of Statutes*, 47 Colum. L. Rev. 527, 543 (1947).

The Commission rather than the court below has properly understood and applied the basic Congressional purpose as indicated both by the wording of the applicable statutory provisions and by the Act's over-all legislative history.²⁹

²⁹ The court below also relied on a statement contained in the Joint Committee Report on the bill that Section 185 "requires the issuance of a license if the construction is carried out in accordance with the terms of the construction permit" (Sen. Rep. No. 1699, H.R. Rep. No. 2181, 83d Cong., 2d Sess. (1954), p. 28, 1 *Legis. Hist.* 776, 1024). The "terms" of provisional construction permits such as the one involved here (R. 718), however, incorporate the condition required by the statute and by Section 50.35 of the regulations that, before an operating license is issued, there must be a showing that "the final design provides reasonable assurance that the health and safety of the public will not be endangered." The construction permit holder is thus on notice from the outset that this as well as any other term or condition imposed must be satisfied before an operating license can be issued. The Committee Report does not indicate an intent to deny to the Commission authority to issue construction permits on such terms and conditions.

**E. THE COMMISSION'S CONTEMPORARY CONSTRUCTION AND
CONSISTENT PRACTICE AND THE ACQUIESCENCE OF
CONGRESS THEREIN ARE ENTITLED TO CONTROLLING
WEIGHT**

Even if this question of statutory interpretation could be considered to be not free from doubt, that doubt should be resolved in favor of the Commission's regulation and its consistent interpretation and application of the Act. The regulation involved here was promulgated pursuant to authority expressly delegated to the Commission in Sections 161 b, i, p, and 182 a, as an appropriate means of implementing the directive in Section 104 b "to protect the health and safety of the public" with a minimum of restriction and a maximum of expedition (Appendix, pp. 72-73). The licensing provisions of the Act could not themselves come into effect until the framework they provided was built upon by the Commission's regulations. Congress plainly intended to grant the Commission substantial discretion of a quasi-legislative nature in implementing and effectuating the Act's basic purposes. See 1 Davis, *Administrative Law Treatise* (1958), § 5.03, pp. 302-03; compare *Addison v. Holly Hill Fruit Products, Inc.*, 322 U.S. 607, 613-14; *American Trucking Associations, Inc. v. United States*, 344 U.S. 298, 314.

It is axiomatic that an agency's interpretation of the statute which it administers is entitled to great weight. As this Court aptly stated in *United States v. American Trucking Associations, Inc.*, 310 U.S. 534, 549, quoting with approval *Norwegian Nitrogen Co. v. United States*, 288 U.S. 294, 315:

"This is peculiarly true here where the interpretations involve 'contemporaneous construction of a statute by the men charged with the responsibility of setting its machinery in motion, of making the parts work efficiently and smoothly while they are yet untried and new.'"

In this case these principles are even more applicable. Not only is the Commission operating in a wholly new

field involving a complex technology the very understanding of which requires knowledge and skill of a high order, but in a field in which until the enactment of this statute in 1954 the Federal Government, acting through this very Commission, had an absolute monopoly. See Marks and Trowbridge, *supra* note 24, at pp. 1-4. In accordance with the practice developed under the predecessor Atomic Energy Act of 1946, the Commission has to an unusual degree kept the Congress, through the Joint Committee on Atomic Energy, fully informed of its activities and practices under the Act. In fact, the extent of the contact with and supervision of the activities of the Commission by the Joint Committee on Atomic Energy has been unparalleled by that of any other Federal regulatory agency. Compare *Panama Canal Co. v. Grace Line, Inc.*, 356 U.S. 309, 318-19.³⁰

The Commission's interpretation of the Act to permit construction permits on a provisional basis and its settled practice in issuing permits on this basis for developmental

³⁰ The Joint Committee occupies a unique role in that it was established by the Atomic Energy Act of 1946, Section 15 (60 Stat. 772), and was continued with substantially similar powers by Sections 201-07 of the Atomic Energy Act of 1954. Section 202 of the 1954 Act continues the directive of Section 15(b) of the 1946 Act that "the Commission shall keep the Joint Committee fully and currently informed with respect to all the Commission's activities" (Appendix, p. 79). Numerous other sections of the Act provide specifically for supervision or approval by the Joint Committee of various types of Commission action. *E.g.*, determination of new special nuclear material (§ 51), or new source material (§ 61); determination of fair prices for special nuclear material (§ 58); approval of foreign cooperative agreements (§ 123 c, d); approval of electric utility contracts (§ 164); special report on occurrence of certain nuclear incidents (§ 170*i*).

A further indication of the unusual degree of continuing attention given by Congress to this area is found in the fact that the Atomic Energy Act of 1954 has been amended in some particular at every session since its original enactment. P.L. 337 (1955); P.L. 722, 1006 (1956); P.L. 85-79, 85-256 (1957); P.L. 85-479, 85-602, 85-681, 85-744 (1958); P.L. 86-300, 86-373 (1959); P.L. 86-457 (1960).

power reactors has been repeatedly brought before the Joint Committee, beginning even before the promulgation in 1956 of Section 50.35 of the regulations.³¹ In 1957, the Commission's practice in this regard was considered by the Joint Committee in connection with an intensive study of the desirability of amendments to the Act with respect to Governmental indemnity and reactor safety. See *Hearings Before the Joint Committee on Atomic Energy on Governmental Indemnity and Reactor Safety*, 85th Cong., 1st Sess. (1957), pp. 62-65. A special study conducted by the Joint Committee staff and printed for the Committee's use in this connection recited in detail the Commission's provisional construction permit practice and included relevant excerpts from the 1954 Act's legislative history (including Senator Humphrey's amendment and its withdrawal). See *A Study of AEC Procedures and Organization in the Licensing of Reactor Facilities* (Comm. Print, 1957) pp. 5-6, 11-13, 70-74. Largely on the basis of this material, the Joint Committee recommended and Congress adopted several amendments to the very licensing provisions here involved, including the addition of a new subsection b to Section 182 requiring an analysis and public report by the Advisory Committee on Reactor Safeguards prior to issuance of any Section 103 or 104 b construction permit or operating license, and an amendment to Section 189 a, requiring notice and a public hearing in each

³¹ See AEC Opinion, R. 651-58, for summary of extent to which the Commission's practice with respect to provisional construction permits was brought to the attention of the Joint Committee on Atomic Energy by testimony given at Committee hearings in 1956 and again in 1958. See also *Hearings Before the Joint Committee on Atomic Energy on Development, Growth and State of Atomic Energy Industry*, 84th Cong., 2d Sess. (1956), pp. 106, 132-33; *id.* on *Governmental Indemnity and Reactor Safety*, 85th Cong., 1st Sess. (1957), pp. 62-65; *id.* on *Development, Growth and State of Atomic Energy Industry*, 85th Cong., 2d Sess. (1958), pp. 112, 119-23; *id.* on *Operation of AEC Indemnity Act*, 85th Cong., 2d Sess. (1958), pp. 56-57; *id.* on *Development, Growth and State of the Atomic Energy Industry*, 86th Cong., 2d Sess. (1960), pp. 101-09.

such case (Appendix, p. 78). No amendment was recommended or adopted to require a change in the Commission's provisional construction permit practice. With respect to the amendments which were recommended, the Joint Committee report stated that they

"were added to the indemnity bill since it was felt that the Congress should not only try to give financial protection to innocent members of the public who might suffer in the unexpected case of a runaway reactor, but that the Congress should also provide all possible statutory requirements for assuring that reactors should be as safe as possible" (Sen. Rep. No. 296, H. R. Rep. No. 435, 85th Cong., 1st Sess. (1957) pp. 11-12).

In so amending and in effect re-enacting these licensing provisions, Congress thus "considered in great detail the provisions of the earlier legislation as they had been applied by the [Commission]", and it may accordingly be inferred that it accepted and approved that administrative construction. Compare *National Labor Relations Board v. Gullett Gin Co.*, 340 U.S. 361; 366. The Joint Committee plainly did not consider that its detailed study of Commission procedures indicated it to be either necessary or desirable to require a change in the Commission's consistent practice of issuing construction permits on a provisional basis, subject to the submission of further technical information and a later evaluation that "the final design provides reasonable assurance that the health and safety of the public will not be endangered" (AEC Regs. § 50.35). Under the circumstances such Congressional acquiescence should be given great weight. *United States v. Bergh*, 352 U.S. 40, 46-47; *United States v. Shreveport Grain & Elevator Co.*, 287 U.S. 77, 84. Compare *Ivanhoe Irrigation District v. McCracken*, 357 U.S. 275, 292-94; *Brooks v. Dewar*, 313 U.S. 354, 361.

The justification given by the court below for ignoring the effect normally to be given to such administrative interpretation and consistent practice is found in its statement that "the possibilities of harm are so enormous that any

doubt as to what findings the Act requires . . . should be resolved on the side of safety" (R. 960). At this stage of the proceedings, however, public safety is not in fact involved at all; as the Commission found, issuance or continuation of this provisional construction permit "does not in any manner adversely affect the health and safety of the public" or that of respondents (R. 658-59, 967-68). This is so because there is necessarily interposed between such construction permit and any operation of the reactor—the only event which could conceivably present any public hazard—the necessity for a further proceeding, a new determination by the Commission on further evidence to be adduced in a public hearing, and a new order, all of which will be subject to further judicial review on the record then made.

The court below sought to bridge this gap in its reasoning by the stated assumption, contrary to another uncontested finding of the Commission, that "if enormous sums are invested without assurance that the reactor can be operated with reasonable safety, pressure to permit operation without adequate assurance will be great and may be irresistible" (R. 962). It would be hard to find a case, however, in which the record is clearer that pressure of the type feared cannot realistically be exerted. The Commission in its opinion dealt with this question most explicitly:

" . . . PRDC has been on notice since before the first shovel of dirt was moved that its construction permit is *provisional* upon further demonstration of many technological and financial facts, including the complete safety of the reactor. . . . Since PRDC has recognized the developmental nature of the reactor it is building and since it has expressly waived any commitment for an operating license (if there exists any of the type that the Intervenor[s] [respondents] contend is implied by the construction permit), the possibility that the Commission would be in any way-bound cannot be visualized. It would be hard to imagine a case where an applicant would be less able to argue that he had been misled by previous favorable Commission

action. Under the circumstances of this case, moreover, and in view of the wording of the provisional construction permit, it is perfectly clear that PRDC is assuming a substantial financial risk with its eyes wide open, and that the generation of any pressure from such ingredients would be quite absurd".³²

A developmental project such as this by its nature seeks not to return monetary profit on a capital investment but to push back the frontiers of knowledge. Everyone who undertakes such a project recognizes from the outset that the particular avenue of attack chosen may prove less successful than anticipated; yet if the attack is not made the answer may never be known. Research and development work (which in the nuclear field is traditionally and necessarily measured in millions or more) could not be undertaken on any other basis. As Judge Burger stated in his dissenting opinion below, pressure based on financial expenditure could have significance where the ultimate issue involves one of striking a fine balance between competing economic considerations; it is not credible, however, that members of the Atomic Energy Commission would disregard their responsibilities and oaths and would "permit an operation dangerous to the public because 40 or 50 million dollars is invested in brick, mortar and steel by

³² R. 649-50. It should be emphasized again that this is not a commercial enterprise whose sponsors could unexpectedly find themselves in the position of having wasted a large capital investment in an unusable "white elephant". The nature of this project as a non-profit developmental undertaking is inherently such that, even in the unlikely event that for some reason operation of the plant must be seriously postponed or cannot be undertaken at all, the substantial practical engineering information and experience developed in its design, construction and non-nuclear testing would be of value from the research and development standpoint, and the data thus obtained would contribute substantially to later generations of reactors. This position of PRDC has been repeatedly stated on the record, and was accepted by the Commission. See AEC Opinion, R. 650, n. 31.

men who knew from the outset they were engaged in a scientific gamble" (R. 967).

Furthermore, at the present stage of development of the art, it appears likely that in the long run the rigid licensing rule enunciated below is not a solution of the regulatory problem "on the side of safety"; it may well give rise to more safety problems than it solves if the reactor development program which Congress sought to encourage is to go forward at all. As the Court of Appeals read the provisions of the statute, they would "require the issuance of a license when the permitted construction is carried out"; in fact, the court referred to this "requirement" as a strong indication that the Act meant to "require, as a condition to the issuance of a construction permit, a finding that the proposed facility can be operated without undue risk to the health and safety of the public" (R. 960). This issuance of an operating license as a relatively automatic sequel to a construction permit may well be a safe and appropriate procedure when power reactors have become sufficiently standardized to justify issuance of commercial licenses under Section 103.³³ In an area in which the technology is moving forward so rapidly, however, the feasibility as well as the wisdom from a safety standpoint of attempting to reach a decision on the basis of information available in 1961, for example, which will control issuance of an operating license for an advanced developmental project to be completed in 1965 or 1966, would appear very dubious. This is the very type of question which the Commission, with the necessary

³³ With respect to some of the small research and training reactors already licensed; for example, which the Commission in its opinion said "have become virtually production line items" (R. 649), it has already been possible to issue construction permits which have not fallen within the terms of Section 50.35 of the regulations and which have accordingly been issued on the basis of findings of "reasonable assurance that *the reactor* can be constructed and operated at the proposed location without undue risk to the health and safety of the public" (italics supplied). See, e.g., CRR-50, *American Radiator and Standard Sanitary Corp.*, 25 Fed. Reg. 1968.

expertise available to it, is much better qualified to resolve than are the courts, and the type of question which Congress plainly intended to entrust to the Commission's informed judgment.

II

THE HOLDING THAT THE COMMISSION MAY NOT APPROVE ANY REACTOR SITE NEAR POPULATED CENTERS WITHOUT FINDING "COMPELLING REASONS" THEREFOR IS NOT REQUIRED BY ANY PROVISION OF THE ACT AND IS INCONSISTENT WITH EXPRESSED CONGRESSIONAL INTENT

As an alternative ground of decision, the court below held the Commission's findings to be "deficient in an additional respect" (R. 964). This deficiency was in failing to find "compelling reasons" for approving a site for the reactor located in a primarily rural area some thirty miles from the city of Detroit. The court said:

"We think it clear from the Congressional concern for safety that Congress intended no reactor should, without compelling reasons, be located where it will expose so large a population to the possibility of a nuclear disaster. It does not appear that the Commission found compelling reasons or saw that such reasons were necessary" (R. 964).

Although the court purported to be construing the Atomic Energy Act of 1954, it cited no provision of the statute nor any item of its legislative history as requiring or even suggesting the necessity for such a finding; rather, it indicated that in its judgment the fact that a reactor so located could expose what it called "so large a population" to the mere *possibility* of nuclear disaster made this additional determination on the part of the Commission mandatory because of what it called the general "Congressional concern for safety." No such "compelling reasons" have been found to support approval of the location of any other reactor, whether constructed by the Commission itself or licensed to be constructed pri-

vately, nor has such finding heretofore been considered by the Commission to be either necessary or appropriate.

That the rule enunciated by the court below was intended as a practical matter to impose a substantive limitation on the Commission's power to approve the location of large reactors in any populated area is indicated by the further statement that

"We need not consider whether even the most compelling reasons for preferring this location could support a finding that the reactor could be operated at this location without 'undue' risk, or with 'adequate' protection, to the health and safety of the public" (R. 965).

It is important to note that in this aspect of its decision the majority of the court below was referring in terms to "a typical large power reactor" and not to any unique characteristics of this particular project. The statements quoted with respect to potential maximum danger to the population in the general vicinity of a large reactor were taken from the Commission's letter of March 22, 1957, to the Joint Committee on Atomic Energy (R. 349, 353), forwarding a lengthy Commission study entitled, "Theoretical Possibilities and Consequences of Major Accidents in Large Nuclear Power Plants"—the so-called "Brookhaven Report" (R. 874-917). This is a detailed environmental analysis of general applicability to power reactors as such, and its conclusions are expressly subject to the numerous assumptions and limitations stated therein. Similarly, the statement quoted in the opinion that there is a "possibility of a major disaster, even though it has a low probability," is taken from testimony initially made to the Joint Committee on Atomic Energy by Dr. C. Rogers McNallough, former Chairman of the Commission's Advisory Committee on Reactor Safeguards, as part of his "general views on these questions of hazard evaluations" for reactors generally (R. 70-73; *Hearings Before Joint Committee on Atomic Energy on Governmental Indemnity for Private Licensees and AEC Contractors Against Reactor Hazards*, 84th Cong., 2d Sess. (1956), pp. 46-50).

In emphasizing only that part of the Brookhaven Report which dealt with the maximum damage that could theoretically result from a release of fission products from a large reactor, the court below ignored (or perhaps was unaware of) the related discussion in the report of both the multiple layers of containment and other available protective measures which could prevent this from happening, as well as the minuscule probability that damage of this order of magnitude could occur.³¹ On the basis of a consideration of only half of the picture presented by the technical study relied on, and without reference to any specific statutory requirement, the court thus reached the overriding policy conclusion that, at least in the absence of some extraordinary justification, no power reactor may be approved by the Commission if located in an area of comparable population density. As noted further below (pp. 66-68), this conclusion is directly opposed to an uncontested finding of the Commission here that the site selected is a suitable one for a reactor of the size and type proposed here. As Judge Burger cogently pointed out in his dissent (R. 966):

"On what evidence does the majority make a finding of 'nuclear disaster' directly opposed to the finding which the Atomic Energy Commission made? The majority is, in effect, telling the Atomic Energy Commission that it has made an *unwise* decision on the location of the plant."

51. BOTH STATUTORY LANGUAGE AND LEGISLATIVE HISTORY SHOW CONGRESSIONAL INTENT TO AUTHORIZE COMMISSION APPROVAL OF REACTOR LOCATIONS COMPARABLE TO THAT HERE

1. The court plainly indicated that it considered the population distribution around the site to be the single disqualifying factor. It did not merely say that the potential extent of the harm which could theoretically be caused

³¹ See especially Brookhaven Report, Part I (R. 879-86) and Appendix A (R. 901-14). Only the letter of transmittal (R. 349-56) and a selected fragment of the text (R. 356-63) of this extensive

by an accident as a result of the population density in the general vicinity must be given due weight in determining whether the degree of protection provided against such accident by the "final design" of the reactor is adequate. The importance of that question is well understood by the Commission as well as by others knowledgeable in this field, but it is not presented at this stage of the proceedings. The court's decision as a practical matter appears to direct the Commission simply not to locate *any* power reactor in an area of population density comparable to that found here, regardless of safeguards which may be provided and evaluated by the Commission as adequate, unless some "compelling reasons" for such location can be found.

The PRDC reactor is located in an area which is essentially rural, not urban or densely populated; the site is near but not in a metropolitan industrial center.³⁵ This, as noted further below, is just the type of location which Congress contemplated that the Commission would approve for those developmental reactors designed to explore the feasibility of using nuclear energy for the central station generation of electricity. In addition, the reactor is located on a large plot of land which permits a minimum exclusion radius of almost $\frac{3}{5}$ ths of a mile. These exclusion area and population distribution characteristics are generally comparable to (and more favorable than some of) the corresponding characteristics of the other eight power reactors authorized prior to the decision below to be constructed or operated by private parties as well as several comparable power reactors owned by the Commission, and therefore not required to be licensed, but similarly built or being built as developmental reactors in connection with publicly or pri-

and highly technical report were printed in the Joint Appendix for use of the court below, since the question of the suitability of this location for any large power reactor was not raised or argued before that court (app: 66-67, below). The entire report and two of its appendices are now included in the printed record (R. 874-917).

³⁵ See Finding 19, R. 706-07.

vately owned electric generating facilities. These projects and available published information with respect to the population distribution of nearby areas are listed in the appendix to our petition for certiorari (No. 315), pp. 40-41. See also Government petition for certiorari (No. 454), pp. 61-64.

The court's imposition of an arbitrary limitation on site location thus not only usurps the Commission's function in the very field in which its expertise is of particular importance, but also puts in jeopardy all other licenses and construction permits thus far issued for developmental power reactors, and would as a practical matter seriously retard the further development of nuclear reactors for the generation of electric power, all contrary to the purposes of Congress in enacting the Atomic Energy Act of 1954.

2. If Congress had intended to forbid the Commission to approve power reactors located in other than remote areas except under compelling or extraordinary circumstances, it would certainly have said so in specific terms. Nothing in the Act's provisions indicates such an intent. In view of the extensive hearings held, and of the fact that the Joint Committee on Atomic Energy in 1954 was certainly abreast of nuclear developments as a result of its years of work with the Commission in the administration of the Atomic Energy Act of 1946 [§ 15(b), 60 Stat. 772], Congress was plainly aware of the theoretical seriousness of a reactor accident and of the availability of containment and other designs to provide adequate protection of the public health and safety against such possible occurrence.³⁶ With this knowledge at hand, it elected to vest in the Commission the authority to evaluate the various complex technical factors involved in approving reactor loca-

³⁶ For example in 1953 Dr. John C. Bugher, then Director, Division of Biology and Medicine, Atomic Energy Commission, testified that the possible or theoretical dangers of power reactors are such that "In the event of a serious disaster, the locality could be very seriously contaminated and would not be suitable for occupation by people for quite a period of time", although he believed

tion, rather than to spell out rigid rules or criteria in the statute itself.³⁷

The legislative history of the 1954 Act shows that Congress was also quite aware that the early large reactors would be located, as in fact they have been, reasonably near large metropolitan centers. For example, Mr. Eugene Zuckert, then a member of the Atomic Energy Commission, testified at hearings on the bill in 1954 that nuclear facilities "would be an integral part of the electric-generating activities of the country," and that large nuclear power plants (100,000 to 300,000 kilowatts or more) "are likely to be built first near heavy power-consuming centers." To be competitive, he pointed out, nuclear plants would be located "near but not in" metropolitan and industrial centers (*Hearings Before the Joint Committee on Atomic Energy on S. 3323 and H.R. 8862, to Amend the Atomic Energy Act of 1946*, 83d Cong., 2d Sess. (1954) p. 582, 11 *Legis. Hist.* 2220). See also statement of Commissioner Smyth (*Hearings, supra*, at p. 570, 11 *Legis. Hist.* 2208).

In the debates Senator Lehman referred to such testimony when he noted that "the first nuclear reactors for power-producing purposes would very likely be erected in New York State, near the great centers of population in my State" (100 *Cong. Rec.* 11374, 11 *Legis. Hist.* 3461). In fact, the first construction permit issued by the Commission was for such a reactor, substantially larger than that being built by PRDC, located at Indian Point, New York, approximately twenty-four miles from the New York City limits (see appendix to our petition for certiorari, p. 40).

that reactors could be so designed as to provide adequate protection against such an occurrence. *Hearings Before the Joint Committee on Atomic Energy on Atomic Power Development and Private Enterprise*, 83d Cong., 1st Sess. (1953), pp. 32-34. See also letter of July 23, 1953 of Dr. Edward Teller, *id.* at p. 633.

³⁷ See especially Atomic Energy Act of 1954, Section 161 i (3), which specifically empowers the Commission by regulation or order to fix "standards and restrictions governing the design, location, and operation" of authorized facilities, so as to "protect health and to minimize danger to life or property" (Appendix, p. 74).

Senator Hennings voiced a similar understanding, that it was contemplated that "in the future, atomic-energy reactors of various sizes and capacities could be located in any city, or town or, for that matter, in a barren field anywhere in the Middle West, as well as any place in the country" (100 *Cong. Rec.* 11920, 411 *Legis. Hist.* 3681). Senator Kennedy testified in favor of the location of one of the early large developmental plants in New England, emphasizing the importance of "pilot plant activity" and experimental plants to be located in that area (*Hearings supra*, pp. 774-780, 11 *Legis. Hist.* 2412-18). Such a plant, of slightly greater capacity than the reactor here involved, has now been constructed and licensed and is in operation at Rowe, Massachusetts, some forty-five miles from Albany, New York (see appendix to our petition for certiorari, p. 40).

Even more specifically, there was reference in the hearings on the 1954 Act to the Shippingport Pressurized Water Reactor, the location of which was described in the Commission's 16th semiannual report of July, 1954, as some "25 miles northwest of Pittsburgh,"³⁸ and which at that very time was under construction by the Commission (*e.g.*, *Hearings supra*, pp. 471, 493, 11 *Legis. Hist.* 2105, 2127). This project was described in the Report of the Joint Committee on the bill that became the Atomic Energy Act of 1954 as "the Nation's first large-scale atomic-power reactor, which will generate 60,000 kilowatts of electricity—an amount sufficient to furnish light and power for a sizable city" (Sen. Rep. 1699, 11. R. Rep. 2181, 83d Cong., 2d Sess. (1954), p. 3, 1 *Legis. Hist.* 751, 999).³⁹

³⁸ *Major Activities in the Atomic Energy Programs, January-July 1954* (AEC, 1954) pp. 21-22.

³⁹ Among the relatively few Congressional references to the desirability of locating reactors in relatively sparsely settled areas for safety reasons is a statement by Senator Humphrey on the floor of the Senate, where he was urging the Commission to place such a plant in the high power-cost areas of rural Minnesota (100 *Cong. Rec.* 11900, 111 *Legis. Hist.* 3660). Senator Humphrey would apparently have considered the PRDC location to

Not only did these and other proposed reactors evoke no statutory prohibition on the Commission's power to build or approve such developmental projects or to do so only in extraordinary or compelling cases, but Congress actually wrote into Section 104 b of the Act a mandate to the Commission to lend projects of this nature every encouragement and to impede them by a minimum of regulation (Appendix, pp. 72-73). The restriction imposed by the decision below constitutes a roadblock to nuclear progress of the very type which Congress in Section 104 b enjoined the Commission—and *a fortiori* the courts—not to erect. As Commissioner Zuckert properly pointed out in the 1954 Hearings on the Act (p. 60; above), if reactors are to be developed for the central station generation of electric power, they must be located, like most large conventional power plants, in the service areas of the utilities operating them and reasonably near metropolitan and industrial centers. Congress plainly recognized that a wilderness or desert location is only one of a number of means which may be used "to protect the health and safety of the public," and it plainly did not intend to limit the Commission's discretion in evaluating population distribution along with other factors in approving reactor sites.

B. SUBSEQUENT CONGRESSIONAL ACTION INDICATES APPROVAL OF THE COMMISSION'S REACTOR LOCATION POLICIES

Again, as with its provisional construction permit procedure, the Commission's consistent practice in licensing (and in building itself) large developmental power re-

be satisfactory from this standpoint, however, since in this connection he referred to the Shippingport, Pennsylvania, plant as one of those which were "being constructed in rural areas" (*ibid.*). The Shippingport reactor is some 30 miles from the center of Pittsburgh and has a substantially greater population within the five-mile (20,000), the ten-mile (125,000) and the fifteen-mile (225,000) radius of the site than does PRDC, and has some 2,800,000 persons living within a forty-mile radius. See appendix to our petition for certiorari (No. 315), p. 41; Government petition for certiorari (No. 454), p. 63.

actors and associated electric generating facilities within reasonable distances of commercial and industrial centers has been brought to the attention of Congress and has evoked no corrective legislation in spite of frequent and pertinent amendment of the Act.

As stated elsewhere, relevant characteristics of nine developmental power reactors and of four other similar Commission-built reactors are listed in the appendix to our petition for certiorari (pp. 40-41). See also appendix to Government petition for certiorari (pp. 61-64). General information on these projects has been regularly furnished to the Joint Committee in the public hearings it has held annually since 1955 under Section 202 of the Act on "Development, Growth and State of the Atomic Energy Industry." Further testimony about many of these and other reactors was given in the extensive Joint Committee hearings held in 1956 and 1957 on proposed indemnity legislation,⁴⁰ and still other information has been regularly submitted in connection with annual AEC appropriation authorization bills.⁴¹

Probably the most extensive consideration of the problem of reactor location as such is found in the Commission's Brookhaven Report, referred to heretofore and relied upon in other particulars by the court below, which was submitted to the Joint Committee in 1957 in connection with its consideration of proposed legislation to provide up to \$500,000,000 of indemnification for liability of Commission licensees and contractors which might result

⁴⁰ *Hearings Before the Joint Committee on Atomic Energy on Governmental Indemnity for Private Licensees and AEC Contractors Against Reactor Hazards*, 84th Cong., 2d Sess. (1956); *id.* on *Governmental Indemnity and Reactor Safety*, 85th Cong., 1st Sess. (1957).

⁴¹ *E.g.*, *Hearings Before the Subcommittee on Legislation of the Joint Committee on Atomic Energy on Authorizing Legislation for AEC's Fiscal Year 1958 Construction Budget*, 85th Cong., 1st Sess. (1957); *id.* for *Fiscal Year 1959*, 85th Cong., 2d Sess. (1958); *id.* on *Review of Proposals under Power Demonstration Program*, 85th Cong., 2d Sess. (1958).

from nuclear accidents. In Appendix B of this study (R. 914-17) there was given a summary of the population distribution around a typical power reactor, assumed to be of 500,000 thermal kilowatts.⁴² Such reactor was assumed to be "30 miles from a large city, and located near a large body of water." The basis for this assumption was stated to be that "all the power reactor sites proposed to date are within 30 to 40 miles of a city and near an adequate water source."

As further support for the assumption used there was included with the study a chart showing "population curves for three government controlled sites and two proposed private sites" (R. 915-917). As the study states, this chart shows plainly that each of the sites has a remarkably similar population distribution. All of them are closely comparable in this respect to the PRDC location.

The 1957 report of the Joint Committee on the proposed indemnity legislation relied heavily on this and other information submitted to it, including material showing the availability of adequate measures which could be engineered to provide protection for the public health and safety against the large theoretical hazards involved (Sen. Rep. No. 296, H. R. Rep. No. 435, 85th Cong., 1st Sess., p. 2):

"All of the new reactors which are being built or planned have incorporated into them every conceivable device to see that they are safe. The reactors themselves are constructed with immediate shielding designed to minimize blast damage. They also have gas-tight fragment-proof containers of concrete and steel built around them, such as the sphere which was built around the experimental submarine reactors at West Milton, N. Y. The possibility of dangerous materials escaping and causing damage outside the reactor facilities is infinitesimal. However, the possibility does still exist."

⁴² The PRDC reactor is designed for approximately 300,000 thermal kilowatts, which would permit an output from the plant of approximately 100,000 kilowatts of electricity (Finding 2, R. 701).

"The Commission has extensive powers to protect the public health and safety through its regulatory acts, and it also has mandate for a strong Inspection Division to see that the regulations are complied with. During the hearings, the Commission explained at some length its safety precautions. All of these minimize the possibility of such damage to persons and property."

The Joint Committee report then took note of the estimate in the Commission's Brookhaven Report (the letter of transmittal of which was annexed to the Committee report) that there was less than one chance in 50 million of a member of the public getting killed in any year from a reactor accident, as compared to one chance in 5,000 of getting killed in an automobile accident (Sen. Rep. No. 296, H. R. Rep. No. 435, *supra*, p. 3), and recommended the enactment of the proposed indemnity legislation. As pointed out heretofore (pp. 49-51), the Joint Committee also in the same report recommended certain procedural amendments to Sections 182 and 189 of the Act, stating that, in addition to providing Governmental indemnity, "Congress should also provide all possible statutory requirements for assuring that reactors should be as safe as possible" (*id.* at p. 12).

One member of the Joint Committee opposed the indemnity legislation in both 1956 and 1957.⁴³ In his separate views attached to the Joint Committee's favorable report on the bill in 1956 Representative Holifield emphasized (as did the court below) the extent of the potential damage which might result from a reactor accident and urged that "the quickest and safest way to progress is to build reactors at present Government-owned isolated sites," thus obviating the necessity for any indemnity legislation. H. R. Rep. No. 2531, 84th Cong., 2d Sess. (1956), p. 21. In separate views submitted with the Joint Committee's 1957

⁴³ The indemnity amendments were first recommended by the Joint Committee in 1956, but failed to pass before adjournment of the 84th Congress. See Sen. Rep. No. 2298, H. R. Rep. No. 2531, 84th Cong., 2d Sess. (1956).

report, he again opposed the indemnity legislation as "unnecessary and unwise," stating that "until we can prove by a history of experience in the operation of the new and unproven power reactors (which are now planned) that they are safe mechanisms, we should insist they be located safe distances from populated centers" (H. R. Rep. No. 435, 85th Cong., 1st Sess. (1957), pp. 39, 40). Both the Joint Committee and the Congress disagreed, however, and the indemnity legislation was enacted, together with only those amendments to the licensing provisions noted above. No provision was recommended by the Joint Committee or included in the amendments as passed to limit the Commission's discretion to evaluate population density around a site along with other factors in determining its suitability for a power reactor (Sen. Rep. No. 296, H. R. Rep. No. 435, *supra*; P.L. 85-256, 71 Stat. 576). On the contrary, the provisions of the indemnity amendment itself recognized the necessity for considering location along with other factors in evaluating reactor hazards.⁴⁴

C. THE COMMISSION'S UNCONTESTED FINDING THAT THE SITE HERE IS SUITABLE IS CONTROLLING

The alternative holding of the court with respect to reactor location was made in the face of an uncontested finding by the Commission that the site chosen here was a suitable one for a reactor of this size and type.

On the only safety issue presented below, the respondent's argument was that the Commission had failed to make sufficiently definitive findings with respect to the safety of operation of this reactor prior to issuance of a construction permit (discussed above, pp. 25 to 54).⁴⁵ No contention was advanced at any time that the site

⁴⁴ Subsections 170 b and f provide that, in determining the amount of financial protection which each reactor operator is to have as a prerequisite to obtaining Government indemnification up to \$500,000,000 for any one incident, and as a basis for fixing the indemnification fees, the Commission may take into consideration "the type, size, and location" as well as "other factors pertaining to the hazard". See Appendix, pp. 75-76.

⁴⁵ R. 951-53; see also "Statement of Points" in respondents' Brief in Court of Appeals, p. 10 (lodged with the Clerk of this Court).

was unsuitable for *any* reactor of comparable size, or that it was unsuitable for *this* reactor if the reactor was otherwise shown to be safe, or that the Commission must justify approval of such a location by finding "compelling reasons" for its selection.¹⁶

Apart from the implications which such a contention would have for the whole nuclear power development program, a valid explanation of why it was not urged to the court below is found in the fact that the Commission made unambiguous and uncontested findings that this site is suitable for a power reactor of such size and type. In addition to the finding discussed in Point I above (pp. 34-35) of reasonable assurance that a reactor of the general type proposed can be operated "at the location without undue risk" (Finding 22, R. 708), the Commission also found that

"There is reasonable assurance that the proposed site is generally suitable for a reactor of the type and size described in the Application, if the reactor is otherwise shown to be capable of operation without undue risk to the public health and safety, including demonstrations of stability and adequate containment" (Finding 32, R. 710-11).

As explained above (p. 8), it is undisputed that the potential or conceivable danger to the public from any reactor lies not in damage from explosion or blast, but in the accidental release to the environment of toxic fission products accumulated in it; every reactor creates such fission products in the course of operation, and their potential quantity is primarily a function of its size or power and

¹⁶ At the hearing before the Commission the respondents contended that, because of the nature of this particular reactor, it or a prototype should first have been tested out in a remote location. On the basis of the evidence the Commission made a finding, not attacked here, that such a prototype had not been shown to be necessary from a safety standpoint (Finding 17, R. 705-06). At no time did respondents question the suitability of the location for a power reactor as such. Compare *United States v. Tucker Truck Lines, Inc.*, 344 U.S. 33, 36-37; *Federal Power Commission v. Colorado Interstate Gas Co.*, 348 U.S. 492, 498-501.

extent of operation, and secondarily of its general type. Hence, in initially approving the suitability of a site, the Commission must evaluate it, as it did here, in terms of the size and type of the proposed reactor, subject to a later definitive showing of the safety of "the final design".

The Commission further found (Finding 21, R. 707-08):

"A definitive evaluation of the suitability of the proposed reactor depends upon the inherent safety of the reactor and a demonstration that no credible accident can release significant quantities of fission products into the atmosphere. If the foregoing are established, and there is reasonable assurance that they can be, the site will prove suitable for the proposed reactor."

These findings were neither quoted nor cited by the court below. Other statements in the Commission's findings with respect to site, some of which were so quoted (R. 964-65), have to do largely with the development of further data with respect to meteorology, hydrology and the like (R. 677-78, 706-08). When fully compiled and evaluated, these data could indicate that additional protective measures or operating restrictions are or are not needed, but the undisputed testimony is that such further information, by its nature, could not render the site unsuitable as such for a large power reactor.⁴⁷ Hence the Commission's finding that the site was suitable for a reactor of this size and type, if what its regulation calls "the final design" is shown to have adequate protective structures and devices, was definitive. As noted above, no contention is made that this or any other safety or site finding was not supported by the evidence.

⁴⁷ R. 108-10. The testimony is also undisputed that the extensive meteorological and other site data which the Commission requires prior to authorizing reactor operation and determining any limitations thereon, is information which, by its nature, takes several years to accumulate and in practically every instance is not fully available at the outset of construction but must be gathered as construction progresses. See, e.g., Tr. 3804, 4258-59 (not printed).

CONCLUSION

In both aspects of its decision, a majority of the court below has pre-empted the roles of Congress and the Commission by writing into the law its particular ideas of what would be sound atomic energy policy. It has done so with respect to matters that were not only plainly entrusted to the Atomic Energy Commission's expert discretion by Congress, but that fall in an area which, above all others, requires the evaluation of complex technical information by those specially qualified to do this. If either of the holdings of the court below stands, it will impede rather than further the plainly declared Congressional purpose of encouraging the most rapid development of the peaceful application of nuclear energy which is consistent with adequate protection of the public health and safety.

The judgment below should be reversed.

Respectfully submitted,

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APPENDIX

I. PERTINENT PROVISIONS OF STATUTES

1. *ATOMIC ENERGY ACT OF 1954, AS AMENDED, SECTIONS 1, 3a, d, 53 f, 101, 102, 103, 104, 161 b, i, f, 170 a, b, c, j, 182, 185, 189, 201, 202, 58 STAT., 921, 922, 931, 936, 937, 948, 953, 955, 956, 70 STAT., 1070, 1071, 71 STAT., 576; 42 U.S.C. §§ 2011, 2013(a), (d), 2073(f), 2131, 2132, 2133, 2134, 2201(b), (i), (f), 2210(a), (b), (c), (f), 2232, 2235, 2239, 2251, 2252.*

SECTION 1. DECLARATION.—Atomic energy is capable of application for peaceful as well as military purposes. It is therefore declared to be the policy of the United States that—

a. the development, use, and control of atomic energy shall be directed so as to make the maximum contribution to the general welfare, subject at all times to the paramount objective of making the maximum contribution to the common defense and security; and

b. the development, use, and control of atomic energy shall be directed so as to promote world peace, improve the general welfare, increase the standard of living, and strengthen free competition in private enterprise.

SEC. 3. PURPOSE.—It is the purpose of this Act to effectuate the policies set forth above by providing for—

a. a program of conducting, assisting, and fostering research and development in order to encourage maximum scientific and industrial progress;

d. a program to encourage widespread participation in the development and utilization of atomic energy for peaceful purposes to the maximum extent consistent with the common defense and security and with the health and safety of the public;

Sec. 53. Domestic Distribution of Special Nuclear Material.—

f. The Commission is directed to distribute within the United States sufficient special nuclear material to permit the conduct of widespread independent research

and development activities to the maximum extent practicable and within the limitations set by the President pursuant to section 41. In the event that applications for special nuclear material exceed the amount available for distribution, preference shall be given to those activities which are most likely, in the opinion of the Commission, to contribute to basic research, to the development of peacetime uses of atomic energy, or to the economic and military strength of the Nation.

SEC. 101. LICENSE REQUIRED.—It shall be unlawful, except as provided in section 91, for any person within the United States to transfer or receive in interstate commerce, manufacture, produce, transfer, acquire, possess, use, import, or export any utilization or production facility except under and in accordance with a license issued by the Commission pursuant to section 103 or 104.

SEC. 102. FINDING OF PRACTICAL VALUE.—Whenever the Commission has made a finding in writing that any type of utilization or production facility has been sufficiently developed to be of practical value for industrial or commercial purposes, the Commission may thereafter issue licenses for such type of facility pursuant to section 103.

SEC. 103. COMMERCIAL LICENSES.

a. Subsequent to a finding by the Commission as required in section 102, the Commission may issue licenses to transfer or receive in interstate commerce, manufacture, produce, transfer, acquire, possess, use, import, or export under the terms of an agreement for cooperation arranged pursuant to section 23, such type of utilization or production facility. Such licenses shall be issued in accordance with the provisions of chapter 16 and subject to such conditions as the Commission may by rule or regulation establish to effectuate the purposes and provisions of this Act.

b. The Commission shall issue such licenses on a non-exclusive basis to persons applying therefor (1) whose proposed activities will serve a useful purpose proportionate to the quantities of special nuclear material or source material to be utilized; (2) who are equipped to observe and who agree to observe such safety standards to protect health and to minimize danger to life

or property as the Commission may by rule establish; and (3) who agree to make available to the Commission such technical information and data concerning activities under such licenses as the Commission may determine necessary to promote the common defense and security and to protect the health and safety of the public. All such information may be used by the Commission only for the purposes of the common defense and security and to protect the health and safety of the public.

c. Each such license shall be issued for a specified period, as determined by the Commission, depending on the type of activity to be licensed, but not exceeding forty years, and may be renewed upon the expiration of such period.

d. No license under this section may be given to any person for activities which are not under or within the jurisdiction of the United States, except for the export of production or utilization facilities under terms of an agreement for cooperation arranged pursuant to section 123, or except under the provisions of section 109. No license may be issued to an alien or any corporation or other entity if the Commission knows or has reason to believe it is owned, controlled, or dominated by an alien, a foreign corporation, or a foreign government. In any event, no license may be issued to any person within the United States if, in the opinion of the Commission, the issuance of a license to such person would be inimical to the common defense and security or to the health and safety of the public.

SEC. 104. MEDICAL THERAPY AND RESEARCH AND DEVELOPMENT.—

a. The Commission is authorized to issue licenses to persons applying therefor for utilization facilities for use in medical therapy. In issuing such licenses the Commission is directed to permit the widest amount of effective medical therapy possible with the amount of special nuclear material available for such purposes and to impose the minimum amount of regulation consistent with its obligations under this Act to promote the common defense and security and to protect the health and safety of the public.

b. The Commission is authorized to issue licenses to persons applying therefor for utilization and pro-

duction facilities involved in the conduct of research and development activities leading to the demonstration of the practical value of such facilities for industrial or commercial purposes. In issuing licenses under this subsection, the Commission shall impose the minimum amount of such regulations and terms of license as will permit the Commission to fulfill its obligations under this Act to promote the common defense and security and to protect the health and safety of the public and will be compatible with the regulations and terms of license which would apply in the event that a commercial license were later to be issued pursuant to section 103 for that type of facility. In issuing such licenses, priority shall be given to those activities which will, in the opinion of the Commission, lead to major advances in the application of atomic energy for industrial or commercial purposes.

c. The Commission is authorized to issue licenses to persons applying therefor for utilization and production facilities useful in the conduct of research and development activities of the types specified in section 31 and which are not facilities of the type specified in subsection 104b. The Commission is directed to impose only such minimum amount of regulation of the licensee as the Commission finds will permit the Commission to fulfill its obligations under this Act to promote the common defense and security and to protect the health and safety of the public and will permit the conduct of widespread and diverse research and development.

d. No license under this section may be given to any person for activities which are not under or within the jurisdiction of the United States, except for the export of production or utilization facilities under terms of an agreement for cooperation arranged pursuant to section 123 or except under the provisions of section 109. No license may be issued to any corporation or other entity if the Commission knows or has reason to believe it is owned, controlled, or dominated by an alien, a foreign corporation, or a foreign government. In any event, no license may be issued to any person within the United States if, in the opinion of the Commission, the issuance of a license to such person would be inimical to the common defense and security or to the health and safety of the public.

SEC. 161. GENERAL PROVISIONS.—In the performance of its functions the Commission is authorized to—

b. establish by rule, regulation, or order, such standards and instructions to govern the possession and use of special nuclear material, source material, and byproduct material as the Commission may deem necessary or desirable to promote the common defense and security or to protect health or to minimize danger to life or property;

i. prescribe such regulations or orders as it may deem necessary (1) to protect Restricted Data received by any person in connection with any activity authorized pursuant to this Act, (2) to guard against the loss or diversion of any special nuclear material acquired by any person pursuant to section 53 or produced by any person in connection with any activity authorized pursuant to this Act, and to prevent any use or disposition thereof which the Commission may determine to be inimical to the common defense and security, and (3) to govern any activity authorized pursuant to this Act, including standards and restrictions governing the design, location, and operation of facilities used in the conduct of such activity, in order to protect health and to minimize danger to life or property;

p. make, promulgate, issue, rescind, and amend such rules and regulations as may be necessary to carry out the purposes of this Act;

SEC. 170. INDEMNIFICATION AND LIMITATION OF LIABILITY.

a. Each license issued under section 103 or 104 and each construction permit issued under section 185 shall, and each license issued under section 53, 63, or 81 may, have as a condition of the license a requirement that the licensee have and maintain financial protection of such type and in such amounts as the Commission

¹This section was added by P.L. 85-256, 71 Stat. 576 (1957).

shall require in accordance with subsection 170 b. to cover public liability claims. Whenever such financial protection is required, it shall be a further condition of the license that the licensee execute and maintain an indemnification agreement in accordance with subsection 170 c. The Commission may require, as a further condition of issuing a license, that an applicant waive any immunity from public liability conferred by Federal or State law.

b. The amount of financial protection required shall be the amount of liability insurance available from private sources, except that the Commission may establish a lesser amount on the basis of criteria set forth in writing, which it may revise from time to time, taking into consideration such factors as the following: (1) the cost and terms of private insurance, (2) the type, size, and location of the licensed activity and other factors pertaining to the hazard, and (3) the nature and purpose of the licensed activity: *Provided*, That for facilities designed for producing substantial amounts of electricity and having a rated capacity of 100,000 electrical kilowatts or more, the amount of financial protection required shall be the maximum amount available from private sources. Such financial protection may include private insurance, private contractual indemnities, self insurance, other proof of financial responsibility, or a combination of such measures.

c. The Commission shall, with respect to licenses issued between August 30, 1954, and August 1, 1967, for which it requires financial protection, agree to indemnify and hold harmless the licensee and other persons indemnified, as their interest may appear, from public liability arising from nuclear incidents which is in excess of the level of financial protection required of the licensee. The aggregate indemnity for all persons indemnified in connection with each nuclear incident shall not exceed \$500,000,000 including the reasonable costs of investigating and settling claims and defending suits for damage. Such a contract of indemnification shall cover public liability arising out of or in connection with the licensed activity.

f. The Commission is authorized to collect a fee from all persons with whom an indemnification agree-

ment is executed under this section. This fee shall be \$30 per year per thousand kilowatts of thermal energy capacity for facilities licensed under section 103. For facilities licensed under section 104, and for construction permits under section 185, the Commission is authorized to reduce the fee set forth above. The Commission shall establish criteria in writing for determination of the fee for facilities licensed under section 104, taking into consideration such factors as (1) the type, size, and location of facility involved, and other factors pertaining to the hazard, and (2) the nature and purpose of the facility. For other licenses, the Commission shall collect such nominal fees as it deems appropriate. No fee under this subsection shall be less than \$100 per year.

SEC. 182. LICENSE APPLICATIONS.—

a. Each application for a license hereunder shall be in writing and shall specifically state such information as the Commission, by rule or regulation, may determine to be necessary to decide such of the technical and financial qualifications of the applicant, the character of the applicant, the citizenship of the applicant, or any other qualifications of the applicant as the Commission may deem appropriate for the license. In connection with applications for licenses to operate production or utilization facilities, the applicant shall state such technical specifications, including information of the amount, kind, and source of special nuclear material required, the place of the use, the specific characteristics of the facility, and such other information as the Commission may, by rule or regulation, deem necessary in order to enable it to find that the utilization or production of special nuclear material will be in accord with the common defense and security and will provide adequate protection to the health and safety of the public. Such technical specifications shall be a part of any license issued. The Commission may at any time after the filing of the original application, and before the expiration of the license, require further written statements in order to enable the Commission to determine whether the application should be granted or denied or whether a license should be modified or revoked. All applications and statements

shall be signed by the applicant or licensee. Applications for, and statements made in connection with, licenses under sections 103 and 104 shall be made under oath or affirmation. The Commission may require any other applications or statements to be made under oath or affirmation.

b. The Advisory Committee on Reactor Safeguards shall review each application under section 103 or 104 b. for a license for a facility, any application under section 104 c. for a testing facility, and any application under section 104 a. or c. specifically referred to it by the Commission, and shall submit a report thereon, which shall be made part of the record of the application and available to the public, except to the extent that security classification prevents disclosure.¹

c. The Commission shall not issue any license for a utilization or production facility for the generation of commercial power under section 103, until it has given notice in writing to such regulatory agency as may have jurisdiction over the rates and services of the proposed activity, to municipalities, private utilities, public bodies, and cooperatives within transmission distance authorized to engage in the distribution of electric energy and until it has published notice of such application once each week for four consecutive weeks in the Federal Register, and until four weeks after the last notice.

d. The Commission, in issuing any license for a utilization or production facility for the generation of commercial power under section 103, shall give preferred consideration to applications for such facilities which will be located in high cost power areas in the United States if there are conflicting applications for a limited opportunity for such license. Where such conflicting applications resulting from limited opportunity for such license include those submitted by public or cooperative bodies such applications shall be given preferred consideration.

¹ This subsection was added and original subsections "b" and "c" were relettered respectively "c" and "d" by P.L. 85-256, 71 Stat. 576 (1957):

SEC. 185. CONSTRUCTION PERMITS.—All applicants for licenses to construct or modify production or utilization facilities shall, if the application is otherwise acceptable to the Commission, be initially granted a construction permit. The construction permit shall state the earliest and latest dates for the completion of the construction or modification. Unless the construction or modification of the facility is completed by the completion date, the construction permit shall expire, and all rights thereunder be forfeited, unless upon good cause shown, the Commission extends the completion date. Upon the completion of the construction or modification of the facility, upon the filing of any additional information needed to bring the original application up to date, and upon finding that the facility authorized has been constructed and will operate in conformity with the application as amended and in conformity with the provisions of this Act and of the rules and regulations of the Commission, and in the absence of any good cause being shown to the Commission why the granting of a license would not be in accordance with the provisions of this Act, the Commission shall thereupon issue a license to the applicant. For all other purposes of this Act, a construction permit is deemed to be a "license."

SEC. 189. HEARINGS AND JUDICIAL REVIEW.—

a. In any proceeding under this Act, for the granting, suspending, revoking, or amending of any license or construction permit, or application to transfer control, and in any proceeding for the issuance or modification of rules and regulations dealing with the activities of licensees, and in any proceeding for the payment of compensation, an award or royalties under sections 153, 157, 186 c., or 188, the Commission shall grant a hearing upon the request of any person whose interest may be affected by the proceeding, and shall admit any such person as a party to such proceeding. The Commission shall hold a hearing after thirty days notice and publication once in the Federal Register on each application under section 103 or 104 b. for a license for a facility, and on any application under section 104 c. for a license for a testing facility.¹

¹ The last sentence of Sec. 189 a was added by P.L. 85-256, 71 Stat. 576 (1957).

b. Any final order entered in any proceeding of the kind specified in subsection a. above shall be subject to judicial review in the manner prescribed in the Act of December 29, 1950, as amended (ch. 1189, 64 Stat. 1129), and to the provisions of section 10 of the Administrative Procedure Act, as amended.

SEC. 201. MEMBERSHIP.—There is hereby established a Joint Committee on Atomic Energy to be composed of nine Members of the Senate to be appointed by the President of the Senate, and nine Members of the House of Representatives to be appointed by the Speaker of the House of Representatives. In each instance not more than five Members shall be members of the same political party.

SEC. 202. AUTHORITY AND DUTY.—The Joint Committee shall make continuing studies of the activities of the Atomic Energy Commission and of problems relating to the development, use, and control of Atomic energy. During the first sixty days of each session of the Congress, the Joint Committee shall conduct hearings in either open or executive session for the purpose of receiving information concerning the development, growth, and state of the atomic energy industry. The Commission shall keep the Joint Committee fully and currently informed with respect to all of the Commission's activities. The Department of Defense shall keep the Joint Committee fully and currently informed with respect to all matters within the Department of Defense relating to the development, utilization, or application of atomic energy. Any Government agency shall furnish any information requested by the Joint Committee with respect to the activities or responsibilities of that agency in the field of atomic energy. All Bills, resolutions, and other matters in the Senate or the House of Representatives relating primarily to the Commission or to the development, use, or control of atomic energy shall be referred to the Joint Committee. The members of the Joint Committee who are Members of the Senate shall from time to time report to the Senate, and the members of the Joint Committee who are Members of the House of Representatives shall from time to time report to the House, by bill or otherwise, their recommendations with respect to matters within the jurisdiction of their respective Houses which are referred to the Joint Committee or otherwise within the jurisdiction of the Joint Committee.

II. PERTINENT PROVISIONS OF REGULATIONS

SECTION: 50.34. *Contents of applications; technical information hazards summary report.* Each application shall state the following technical information:

(a) A description of the chemical, physical, metallurgical, or nuclear process to be performed, and a statement of the kind and quantity of any radioactive effluent expected to result from the process. The description of the process should be sufficiently detailed to permit evaluation of the radioactive hazards involved. The magnitude of the proposed operation should be indicated in terms of the amount and radioactivity of source, special nuclear, or by-product material to be handled per unit of time, and thermal power to be generated if any.

(b) A description of the facility. The description should be based on the design criteria for the facility as a whole and for those major component parts which are essential to the safe operation of the facility, and should be presented in sufficient detail to allow an evaluation of the adequacy of the various means proposed to minimize the probability of danger from radioactivity to persons both on and off-site. The description should also cover any activities, other than those subject to license, proposed to be carried on in the building which will house the facility and on the balance of the site.

(c) A description of the site on which the facility is to be located. This should include a map of the area showing the location of the site and indicating the use to which the surrounding land is put, i.e., industrial, commercial, agricultural, residential; location of sources of potable or industrial water supply, watershed areas and public utilities; and a scale plot plan of the site showing the proposed location of the facility.

(d) A description of proposed procedures for: routine and non-routine operations, start-up and shut-down, maintenance, storage, training of employees, minimizing operational mishaps (such as locked controls, checklists, and close supervision), investigating unusual or unexpected incidents; and a description of such other details as may be useful in evaluating the existence and effectiveness of safeguards against the radioactive hazards in the operation of the facility.

(e) A description of plans or proposals in the event that acts or accidents occur which would create radioactive

hazards. The description should relate the various operational procedures, the protective devices, and the pertinent features of the site, to such happenings as operational mistakes, equipment or instrument failure or malfunction, fire, electric power failure, flood, earthquake, storm, strike, and riot.

(f) Meteorological, hydrological, geological, and seismicological data necessary for evaluating the measures proposed for protecting the public against possible radioactive hazards.

(g) An evaluation of the proposed measures and devices to prevent acts or accidents which would create radioactive hazards or to protect against the consequences should such acts or accidents occur.

(h) A description of procedures for disposal of radioactive solid waste and the final disposal of liquid waste effluent.

(i) A description of means provided to sample atmosphere discharges through stacks where such stacks may emit by-product material or special nuclear material.

SECTION 50.35. *Extended time for providing technical information.* Where, because of the nature of a proposed project, an applicant is not in a position to supply initially all of the technical information otherwise required to complete the application, he shall indicate the reason, the items or kinds of information omitted, and the approximate times when such data will be produced. If the Commission is satisfied that it has information sufficient to provide reasonable assurance that a facility of the general type proposed can be constructed and operated at the proposed location without undue risk to the health and safety of the public and that the omitted information will be supplied, it may process the application and issue a construction permit on a provisional basis without the omitted information subject to its later production and an evaluation by the Commission that the final design provides reasonable assurance that the health and safety of the public will not be endangered.